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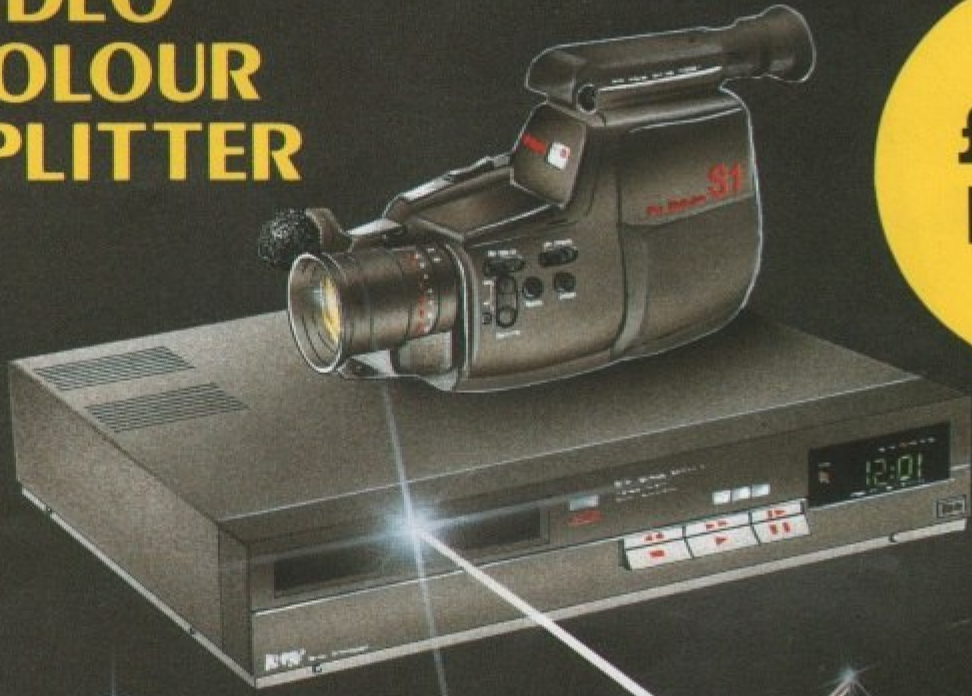
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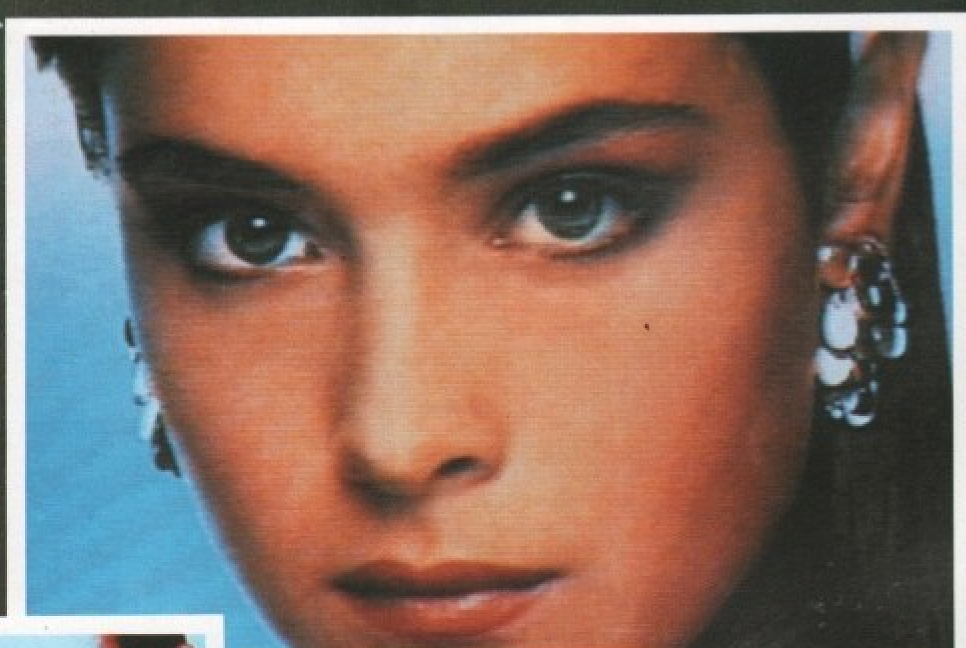
Actual Digitised colour screen - shots

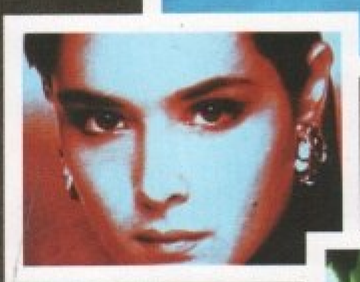


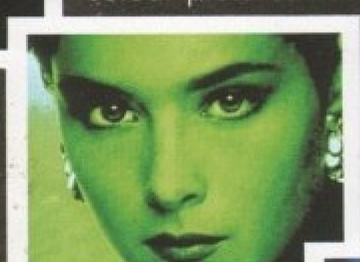


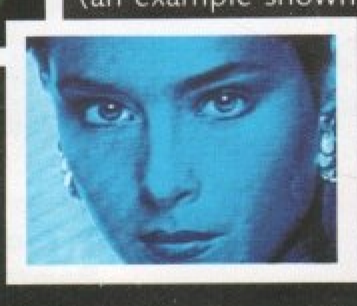
Vidi-RGB is an electronic filter which takes a colour video signal and separates it into the three primary colours (Red, Green and Blue) allowing each to be digitised.

Ideal for use with Vidi-Chrome & Frame Grabber or Digi-View Gold (By Newtek).









- For use with colour Digitisers replacing conventional Filter sets.
- Our Vidi - Chrome switches Vidi - RGB automatically grabbing full colour pictures in less than one second.
- Digitise full colour images direct from home VCR (must have perfect freeze frame)
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All these pictures are **actual unretouched screen-shots** illustrating the sequence of creating a full colour image using Vidi RGB, Vidi-Chrome and Vidi Amiga.

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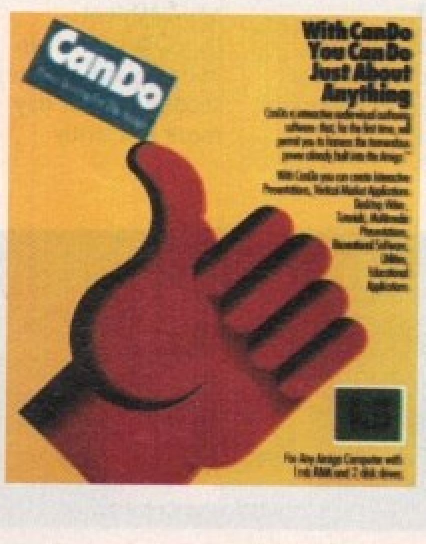
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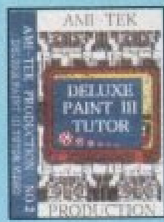
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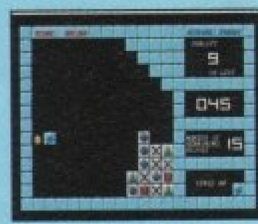
Give us your address and £10* and we'll send you two disks and a CanDo manual by return mail. You'll have created a program before Jonathan Ross goes off.

Get a fresh look at what your Amiga is capable of.

***Buy CanDo later and we'll give you your tenner back.**



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COVER STORY

SPITTING IMAGE



GRAND GRAB

THE COVERDISKS

***Amiga Computing** has gone CoverDisk crazy this month with not just one, but two great disks.*

Full details of how to make the most of our EXCLUSIVE fully usable demonstration of REAL 3D can be found on page 29.

PowerWars

Test your grey matter against a friend of the computer in this excellent space strategy game that's engrossing and addictive

PRTGRVGEN

Create your own custom printer drivers or modify existing Workbench drivers! This utility is the answer to every printer user's dreams

Protect

A handy hard drive lock-out short cut that by-passes the CLI

Kim

A challenging board game guaranteed to make you sweat

DateDiary

Now you need never lose track of all those important appointments. DateDiary will help you manage every second of your day more efficiently

DiaryCheck

A program that tells you when you're late for an appointment! Now you will have no excuse DiaryCheck is the perfect complement to Date Diary

PLUS...

Another great *Tune of the month* and all of the usual programs related to our Amiga Almanac *Code Clinic* and *Amos* pages.



amiga almanac

Something for everyone, every month, from the Amiga experts



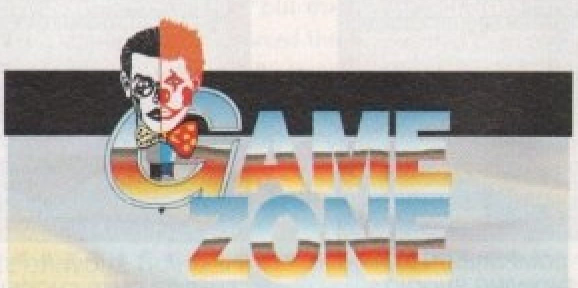
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2 great offers for subscribers – Page 106

REGULARS



FEATURES



WHAT'S new

Bundles go head to head

By JOHN BUTTERS

WHILE Commodore are launching "the best [Amiga] bundle ever assembled", Atari have been forced to raise the price of their lower specification ST to within £70 of the Amiga. This makes Cartoon Classics the obvious choice for people wanting 16 bit computes.

Cartoon Classics is based on an A500 and includes a ram expansion to give it one megabyte of memory, a TV modulator to enable the computer to be used with a television, three top games and the art package Deluxe Paint III.

It's a triumph for Commodore, with inclusion of what promises to be the next hit game, Bart Versus The Space Mutants. This yet to be released Ocean program has been specially converted to run on one megabyte Amigas, with the version going on general sale requiring half a megabyte.

Still on the theme of animation, Cartoon Classics also has a one megabyte copy of Captain Planet and the Planeteers, as well as the award-winning Psygnosis hit Lemmings, itself making the bundle attractive for first time buyers. An enthusiastic Commodore MD, Stephen Frankin, commented: "Cartoon Classics is the best bundle we have ever assembled. The Amiga 500 continues to go from strength to strength, confirming its position as the foremost 16-bit computer on the market".

The pack has been released two months earlier than the manufacturer had intended because of economic conditions in the UK. Commodore hopes to sell 50,000 units during the summer and no less than 150,000 between September and December.

Hot on the heels of Commodore's announcement came Atari's move, raising the price of their entry-level ST pack by £30 to £329.99. This closes the price gap between the ST and Amiga machines to only £70.

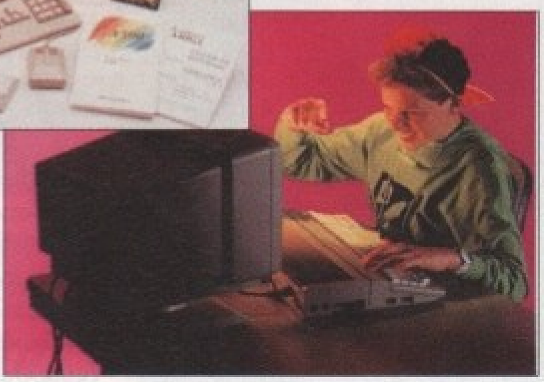
Discovery Xtra was released only a month ago, based on the half megabyte 520STE computer, but the firm says a strong dollar has forced the increase. Inside the Atari bundle there are four ageing games and three other programs including an art package and Basic programming language.

The price rise comes only weeks after concerned Atari president Sam Tramiel warned Commodore that he will "blow them away" in a new war between the Atari ST and the Amiga, which has become the number one home computer. In an interview at Chicago he said that his firm was poised to go "head-to-head" with Commodore in the games market. He said that the Amiga and the ST were basically equal machines and that further development with the ST range will ensure his computer's success in the market place.

What you get from...



Commodore
CartoonClassics Price:£399.99
Includes:
1Mb A500, TV modulator
Deluxe Paint III
Games:
Bart Versus The Space Mutants, Captain Planet, Lemmings



Atari
Discovery Xtra Price: £329.99
Includes:
Half megabyte 520STE, NeoChrome, FirST Basic, ST Tour
Games:
Indiana Jones, Dragon's Breath, Anarchy, Super Cycle

New policy greeted with mixed feelings

SMALL Amiga dealers are furious at changes to Commodore's returns policy for dead on arrival (DOA) equipment which they argue is making them pay for Commodore's mistakes.

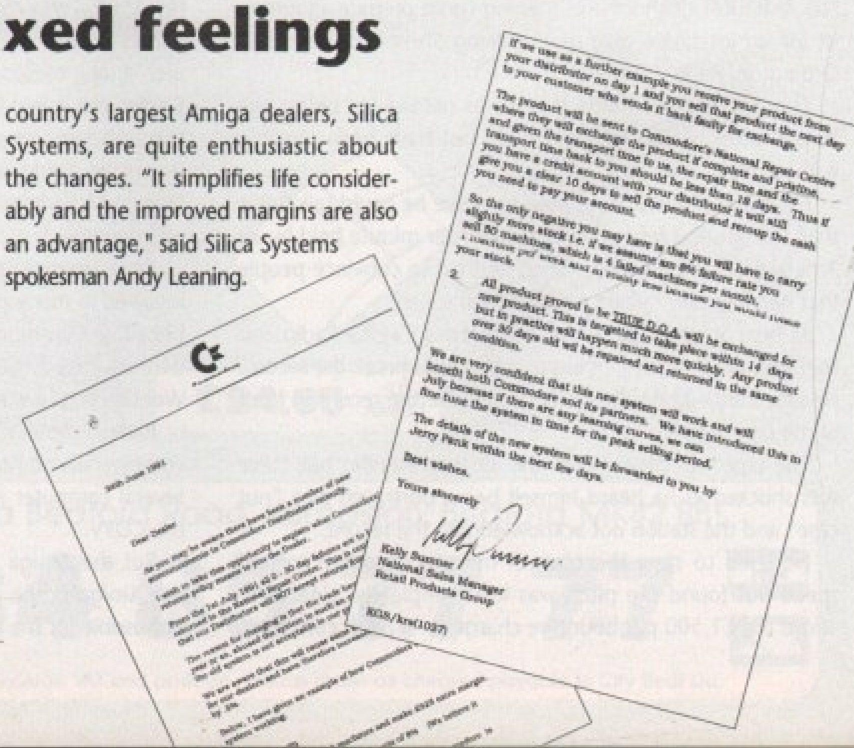
Before July 1, 1991 dealers returned DOA machines to their distributor within 30 days and new units were received the next day. Commodore bosses in the States claim the system was open to abuse, with equipment more than six months old being returned as new and resulting in a very high service bill.

The new policy cuts out the distributor, with dealers sending all faulty equipment directly to the firm's National Repair Centre. Machines proved to be DOA will be replaced within 14 days and those more than 30 days old will be repaired.

Larger dealers are set to benefit from the changes. To compensate for the extra costs dealers are expected to incur, Commodore have increased their dealer margins by half a per cent.

In a statement to dealers, Commodore's national sales manager, Kelly Sumner said that the extra margin gives an additional £325 for every 100 machines bought.

Sumner adds that if a failure rate of eight per cent is assumed, with the cost of return at £7.50 each, dealers can expect to lift their profits by £265 for every 100 machines sold. One of the country's largest Amiga dealers, Silica Systems, are quite enthusiastic about the changes. "It simplifies life considerably and the improved margins are also an advantage," said Silica Systems spokesman Andy Leaning.



If we use as a further example you receive your product from your distributor on day 1 and you sell that product the next day to your customer who sends it back faulty for exchange.

The product will be sent to Commodore's National Repair Centre where they will exchange the product if complete and pristine, and given the transport time to us, the repair time and the transport time back to you should be less than 18 days. Thus if you have a credit account with your distributor it will still give you a clear 10 days to sell the product and recoup the cash you need to pay your account.

So the only negative you may have is that you will have to carry slightly more stock i.e. if we assume an 8% failure rate you sell 50 machines, which is 4 failed machines per month, [illegible] your stock.

2. All product proved to be TRUE D.O.A. will be exchanged for new product. This is targeted to take place within 14 days but in practice will happen much more quickly. Any product over 30 days old will be repaired and returned to the same condition.

We are very confident that this new system will work and will benefit both Commodore and its partners. We have introduced this in July because if there are any learning curves, we can fine tune the system in time for the peak selling period.

The details of the new system will be forwarded to you by Jerry Parik within the next few days.

Best wishes.

Yours sincerely

Kelly Sumner
National Sales Manager
Retail Products Group

KGS/krw(1037)

WHAT'S new

Clip art brightens Amiga

WRITERS looking to liven up their desktop publishing and wordprocessing work with pictures can use a new range of clip art images covering various subjects.

All are supplied in full page-size, bitmapped graphics in the standard .IFF file format, enabling them to be loaded into a wide range of applications. Each disk contains about 40 images and costs £19.95.

The 13 picture library categories are: transportation, birds and animals, trees and plants, business graphics, food and beverages, people, occupations, caricatures, special occasions, signs and symbols, sports and recreation, education, frames and borders.

Kuma Computers (0734 844335) are adding music, medical and extended birds and animals disks to their collection later this year. An illustrated 60-page catalogue and a sample disk cost £3.50.

And from Texas, INOVAtronics (010 1 214 340 4991) have announced clip art for the Amiga, intended for use with multimedia presentation systems.

More than 500 frequently used images including videodisk, music, sounds, trashcan, mouse, printer, anim, pic, clock, document, floppy disk and mathematical symbols make up the $59.95 package.



Classroom typing easier

TEACHERS are among Amiga users who are being targeted for an add-on keyboard which makes the micro more accessible to teachers, children and disabled people.

Designed to be used alongside the Amiga's Qwerty keyboard, the Concept 2000 is made up of either 128 or 256 user-definable keys and is housed in a plastic case.

The user configures the keys on the membrane to be precisely what they want it to be.

A button on the Concept keyboard could, for example, be a picture, a word of any language, a whole sentence or control codes and this is described on the keyboard overlay.

Concept keyboards are already a familiar sight with BBC Micro users but The Concept Keyboard Company's Paul Goddard says he designed an Amiga version because the product is specific to education and Commodore are actively involved in pursuing a share of the education market.

Compatible with all Amigas, it is available from HB Marketing (0753 686000) for £246.40. To enable the keyboard to be used with software, an interfacing program called Think Overlay Designer is also needed. The interfacing software costs £56.75 and can be obtained from Think (021-384 4168).

For more information call The Concept Keyboard Company on 0962 843322.

Amiga proves world record

AMIGA people

NO AMOUNT of shorthand training could prepare a journalist for an interview with quick-talking Steve Woodmore of Orpington, Kent.

The 31-year-old holds the world record for being the fastest talker, which he says would not have been possible without his two Amigas.

For many months Steve tried to prove he could talk faster than the existing record of 585 words per minute held by an American. Problems arose when he tried to convince people that he was really talking sense at high speed.

At first, Steve made a trip to London's Capital Radio and told the station's John Erving that he could break the record. He was shuffled into the studio and broke the record in front of the DJ.

The tape was played over the air that evening but Steve was shocked as he heard himself being portrayed as a "nut case" and the station not acknowledging the record.

He tried to slow the tape of his speech down to half speed but found the pitch was lost completely. Unable to afford the £1,500 per hour hire charge for a pitch converter, his A500 – which until then only been used for running games – came to the rescue. Firing up a Datel sound sampler, a tape of Steve reading a passage from the book *Patriot Games* was taken a word at a time, slowed down and run through the sampler to increase the pitch. Once broken down, he could prove to Guiness Book of Records editor Donald McFarlane that his claim of 637.48 words per minute was genuine.

Since becoming the official record holder, Steve has been involved in many publicity stunts. An appropriate job was on behalf of Commodore at the recent Chicago CES where he demonstrated the Guiness Disk of Records CD, in which Woodmore plays a major role.

Radio listeners in the Newcastle area can hear Steve in commercials on Metro Radio and he is expected to appear at several computer shows for Commodore, mainly promoting the CDTV.

But the Amiga is the real heroine. Steve says: "Without the Amiga home computer it would have been financially impossible for me to prove I had broken the world record".

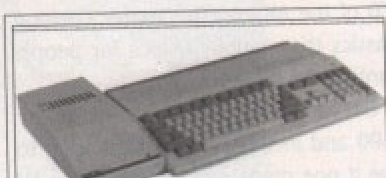
ADPro gets better image

AN UPGRADE to the ASDG image manipulation program Art Department Professional, or ADPro as it is also known, has just been launched in New York.

Version 1.0.3 includes drivers for Impulse FireCracker 24 display board, PP &S FrameGrabber video digitiser, new file formats and new image processing functions.

Drivers for recently announced hardware have also been added to the range. They are now available for the Epson ES-300C flatbed scanner, Kodak SV6510 dye sublimation printer and also the Polaroid CI-3000 digital film recorder.

Dates of UK releases and prices were unavailable from distributor Silica Systems (081-309 1111) at the time of going to press but in its homeland ADPro sells for $240 and the drivers can be picked up for about $200 each.



Hard drivin' Amiga

HIGH flying Amiga users are being offered a new line of SCSI hard disks. Available for the A500, A1500 and A2000, the Dataflyer range is available with either 56 or 130 megabytes of storage capacity.

Dataflyer 500 is an external version for the A500 and is only 25 millimetres high, while owners of the A2000 have cheaper plug-in hard cards called Dataflyer 2000. Both have fast start-up with an access time of 56 milliseconds and are auto-parking.

The range also includes upgrades for the Commodore A590 disk, to increase its storage capacity from 20 to 56 or 130 megabytes. The Dataflyer 500 costs £369.99 and £599.99, Dataflyer 2000s are £324.99 and £499.99 while A590 upgrades start at £249.99.

Prices include SCSI interfaces, which can be obtained separately for £129.99 for the A500 and £79.99 for the A2000.

Available from Trilogic (0274 691115).

Do you know something we don't?

Although *Amiga Computing* have scores of contacts in the Amiga world, we also need you. If you have some hot news pick up the phone and ring John Butters on the newsdesk on 0625 878888. All information supplied will be treated in the strictest of confidence.

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- ★ SEE your SCULPT images as you have never seen them before! Use **ColourPic** or **SuperPic** as the perfect SCULPT display device!
- ★ DIGITISE images in HAM, EHB, 32,16,8, & 4 colour, monochrome, threshold, interlace and overscan modes.
- NEW! ★ ANIMATE from a real life colour source. The **AniMate** option extends th **SuperPic** or **ColourPic** framestore memory RAM to 512K and includes hardware and software for short sequence, real life colour animation from VCR or video camera. Captures and replays in single field or sequence modes. Outputs IFF files for use with DeLuxe Paint, Photon Paint and other animation systems.
- NEW! ★ MODIFY existing pictures using **Cabaret,** our new exciting software package for **SuperPic** and **ColourPic. Cabaret** combines image import facilities and colour processing functions with many powerful new features to give some interesting effects!

ColourPic – The real-time colour video digitiser for the A500, A2000 and A3000. RRP £399 inc VAT.
ColourPic AniMate – RRP £549 inc VAT.
SuperPic – The real-time colour video digitiser and superb genlock for th A500 and A2000 for the discerning Amiga user. RRP £499 inc VAT.
SuperPic AniMate – RRP £649 inc VAT.
Cabaret – New software for all our Amiga digitisers £5 inc VAT available direct from JCL.
AniMate – Upgrade service for most existing models – please call.

ColourPic and **SuperPic** can be obtained from selected Amiga dealers or direct from JCL.
For your free show disk of pictures contact Carolyn on 0892 518181.

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WHAT'S new



Summer show bonanza

By John Butters

WHETHER you wanted to see the latest Amiga bits and pieces, pick up bargains or simply quiz people in the know, the recent 4th International 16 Bit Computer Show at Hammersmith was worth a visit.

More than 130 firms packed into this year's only major summer event for the serious side of Amiga computing, and several companies unveiled new products.

New to the country and Amiga, Protar were showing their A500 HD hard disk and Visto A 14 CM colour monitor. The A500 HD has been designed to blend in with the computer and is available with storage space of between 20 and 200 megabytes. Prices start at £285 for the 20 meg version.

Visto A 14 CM has a 14in screen giving a resolution of 600 by 285 pixels and stereo sound. Supplied with cables to connect it to the computer, it is set to compete with the well-established Philips CM8833.

If the A2000's too slow for you then one of the newest accelerator boards, Fusion-Forty, will do more than help speed things up. The fastest accelerator available for the computer it comes from Germany's Advanced Computer Design and is distributed here by Power Computing.

It can be expanded to give 32 megabytes of memory and comes populated with four megabytes. With a performance of 18 to 25 MIPS it is up to 10 times faster than the A3000, and if users have any software incompatibility problems, a switch will disable it and power up the computer's own processor.

Both companies were showing the board at the show and if you were carrying £1,999 you could walk away with one from Power, who also had their PC880B drive on sale. The £65 external drive has many features including anti-virus hardware which can prevent write access to the boot block.

The Bedfordshire-based firm had probably the most powerful Amiga ever assembled on display. The fully-expanded nine megabyte A2000 was fitted with a Fusion-Forty accelerator card itself populated with 32 megabytes of memory and a 128 megabyte read/write optical drive.

Hidden away in a corner of the Gasteiner stand was another German hardware firm trying to enter the booming British market with the help of the London-based distributor. BSC are responsible for 45, 52 and 105 megabyte A500 hard disks, a hard disk controller and memory expansion for mid to top-end Amigas.

At Surface, the recently-released modems from Supra Corporation with 2,400 baud rates, and MNP error correction level two and five were on sale. SupraModems are available as either external models or internal for users of A2000 and A3000 computers.

Also available was the SupraDrive 500XP, a hard disk with up to eight megabytes of fast ram. Elements of the device can be switched off at the flick of a switch, so you can enable or disable auto-booting, change the drive's SCSI device number, and disable the ram or hard disk.

Version 1.2 of desktop publishing package Saxon Publisher includes several additional features, again available from Surface. Text, printing and utilities have all been improved to make Saxon Publisher the ideal choice for DTP on one megabyte Amigas.

For most people the show was the first opportunity to see HiSoft's Tornado flight simulator ProFlight. Although based on a fighter plane, the simulation manages to break away from the popular shoot-'em-up bias to give realistic flying although energy jets can still be fired at.

Pandaal Marketing have just formed a mail order division named City Beat. They were selling the parent company's new Daatascan Professional 400 dots per inch scanner, external floppy drives and mice.

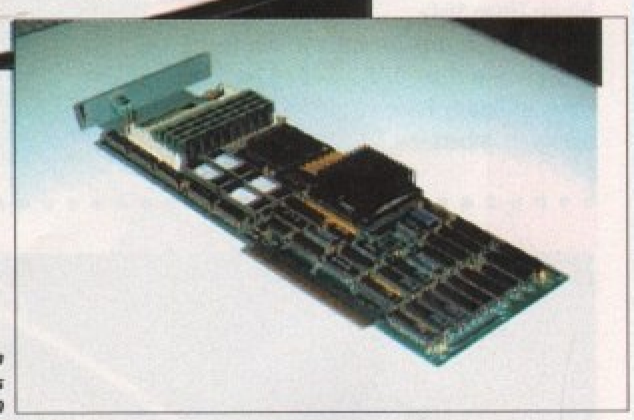
Keyboard overlays for most types of Amiga came from Silverbird Computing.

The blank overlays fit over and around the keyboard to enable commands and keyboard shortcuts to be written on to the overlay and seen quickly when using software.

The 5th International 16 Bit Computer Show will be held by Westminster Exhibitions (081-549 3444) at the Novotel Hotel, Hammersmith on 7 to 9 February 1992.



Protar were showing an A500 hooked up to their visto colour monitor and A500HD hard disk.



Fusion-Forty makes an A2000 run up to 10 times faster than an A3000

Sing along with CDTV

COMMODORE'S CDTV has achieved what could be a strategic marketing victory. The firm have announced there will be a line-up of 39 karaoke releases for the machine, each with 18 tracks.

CDTV can be hooked up to a hi-fi and microphone and words fromthe songs appear onscreen. The titles are to be released by Arbiter, and will sell for just under £40. Two more disks will be launched at Christmas.

Better times for video

DUE FOR release shortly by JCL Business Systems (0892 75791) is an upgrade to their video digitisers, ColourPic and SuperPic. AniMate adds colour animation and includes a ram expansion card with time marker logic, manual and software.

It provides a method of producing colour quarter screen animated images on the Amiga, where images come from a video camera or VCR. The software includes sequence recording as well as single step recording so that animations can be captured from real life or models.

Short sequences may be recorded directly into ram and longer sequences built by joining short sequences using the time marker system built into the hardware, providing that the VCR has an audio channel suitable for dubbing on the time code. Sequences may be previewed in the digitiser ram before converting individual fields into .IFF files and then into ANIM file format for replay.

The AniMate hardware also expands the digitiser's memory to 512K, used for interlace, overscan and other digitising applications.

Existing users of the two digitisers can upgrade for £150, which includes installation by JCL.

Prices for ColourPic and SuperPic with AniMate already fitted are £549 and £649 respectively.

WHAT'S new

Chip firm under investigation

A LEADING chip manufacturer is under investigation by the United States Federal Trade Commission for allegedly favouring large buyers in the supply of chips.

Firms have complained that they are unable to obtain small orders of important Intel chips and as a result are unable to get their products completed and into stores quickly enough.

The row centres on the 80386 chip used in IBM compatibles but Intel also produce 80286 chips which are used in certain PC emulators.

EA buys Canadian firm

GAMES giant Electronic Arts have just bought Canadian software developer Distinctive Software, the firm responsible for hits such as Test Drive II and Teenage Mutant Ninja Turtles and The Simpsons.

More than 40 titles have been released by Distinctive and their 77 staff will continue their work in Canada. Meanwhile, Electronic Arts have also struck a deal to become the European distributors of Californian software house Three Sixty.

● Electronic Arts' telephone number has changed to 0753 549442 as a result of British Telecom adjustments to Slough numbers.



NEC gets into action

LONDON-based computer supplier, Action Computer Supplies (0800 333 333), have just added the entire line of NEC 24-pin printers to their ever increasing range of products.

The cheapest model, the Pinwriter P70, is a 132-column machine printing at 300 characters per second in draft mode and 100 characters per second in one of its letter quality fonts. The price, £515, includes a free colour kit which normally sells for £78.

The company's latest model, the Pinwriter P90 is capable of handling six-part stationery. With an 80k buffer and a draft mode print speed of 400 characters per second, it features Epson LQ850, LQ1050 and NEC 24-pin emulations. With 10 resident fonts the Pinwriter costs £689.

Amiga taking best route

DRIVERS will soon be able to rely on their Amigas to direct them to destinations throughout the country with the help of route planning package GBRoute Plus.

As an improved version of GBRoute, the most important change is the inclusion of B roads and some large C roads to its database. This means that the number of roads included has more than doubled in size from 3,000 to 6,500 and an extra 11,500 places have been added.

Changes to the program's operation will make it more user friendly than the existing program. Users will be able to take their vehicles via five places and avoid three blackspots, including one road.

Three routes suggested by the database for any journey are the fastest, shortest and the cheapest, and the arrival time at your destination will be calculated depending on your speed and departure time.

Software to enable users to add extra places to their database is to be offered separately. GBRoute Plus Edit allows any details to be added so, for example, a company with offices dotted over the country could add them to the map and plan routes between them.

Requiring one megabyte of memory, GBRoute Plus will have a retail price of £79.95 and should be available by the end of August.

Contact Complex on 0706 224531.

PD firms get facelift

A GROUP of public domain libraries have joined forces to ensure they operate on a sound business footing and boost the image of the industry by working swiftly, after the recent failure of many small firms and libraries.

The primary role of United Public Domain Suppliers is to set a common price for PD disks in order to prevent the fierce price wars that are frequently the cause of businesses failing and Amiga users being left without products and money.

They intend to respond to orders within a reasonable period of time. A spokesman explained: "We have all found that the customer demands a quick and efficient service.

"Only a professional full-time library can dispatch all orders out the same day. An order does not have to wait until someone comes home from school or other full time employment".

UPDS is made up of Blitterchips, NBS, Start and Valley Public Domain Libraries, but any library operating for a year or more is invited to join the group. The only proviso is that they must be VAT registered and abide by the UPDS rules.



Commodore goes on show

DETAILS of a Commodore-specific computer show have just been announced. The event will run from November 15 to 17 at London's Earls Court II, which will be open to trade and press visitors on the previous day.

World of Commodore has already attracted support from major players in the Amiga scene including Ocean, Electronic Arts and Psygnosis. It will have a Christmas shopping mall, seminars and a special area devoted to the CDTV. The show will be organised by Commodore and ITP Exhibitions.

Before then Commodore intend to have a large presence at the European Computer Entertainment Show in September. The main attraction from the company promises to be the consumer launch of the A690 CD-Rom which will enable A500 owners to use CDTV software.

Although its price remains unfixed, industry experts predict it will cost £299. But the firm's existing range of products will also be promoted at the event.

"We will be showing that Commodore have the widest and most flexible offering to leisure computing, from the C64 at under £100 through the Amiga range to the PC", said spokesman Andrew Ball.

Billed as the number one event for computer entertainment, many games houses are expected to have new software ready to be shown at Earls Court II from September 6 to 8. For more show details see Diary Dates on page 15.

GASTEINER *Technologies*

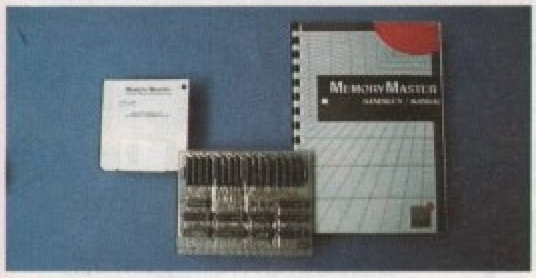
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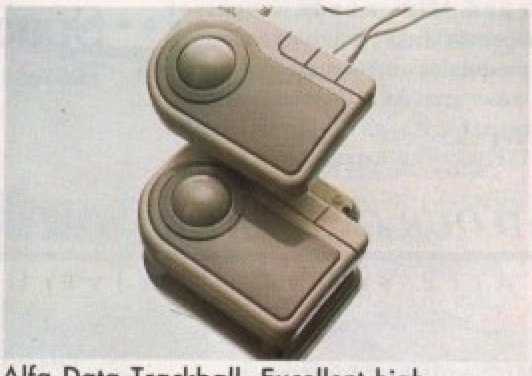
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8Mb	£POA

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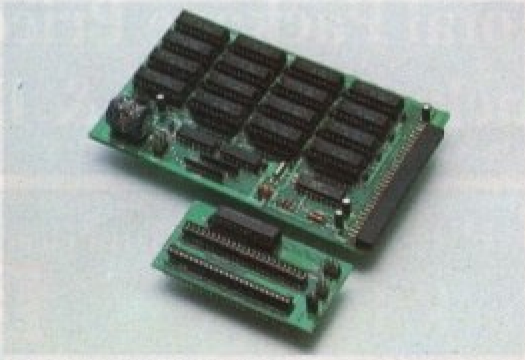
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WHAT'S new



Fujitsu sponsors Cambridge

AS CAMBRIDGE United Football Club celebrate their promotion into the second division it has been announced that peripheral giant Fujitsu Europe is extending its sponsorship of the club until 1994.

Under the six-figure contract, Fujitsu become the club's major sponsor. CUFC's commercial manager John Holmes told *Amiga Computing*: "Fujitsu will be totally recognised as the main sponsor. Everything to do with Cambridge United will bear the Fujitsu name".

Software nicker nicked

A SOFTWARE pirate found guilty of illegally copying 1,300 titles, at Mansfield Magistrates Court recently, became the first leisure software pirate to be imprisoned by the Federation Against Software Theft (FAST).

Trading as A & J Software, Andrew Jayes, 34, of Annersley Woodhouse, Nottingham was found guilty of five offences under the Copyright Designs and Patents Act of 1988 and was given a three-month jail sentence.

The case followed an investigation begun by FAST, the software industry watchdog, and the prosecution was made by Nottinghamshire Trading Standards Authority. Soon after the jailing Jayes made an appeal which went to Nottingham Crown Court where the judge dismissed the case.

FAST's chief executive, Bob Hay said: "The case is a good indication of the excellent co-operation between FAST and trading standards officers in many authorities across the UK.

"I am sure the decision in this case will serve as a strong deterrent in the future", he concluded.

Last year £2 million of software was seized by FAST and 12 successful prosecutions led to fines and suspended sentences.

Quadlingual Euromouse

PROMOTIONAL material for the latest Contriver Europe (0280 822803) replacement mouse shows that firms are having difficulty finding original marketing material to convince people to buy their new rodents.

Contriver say: "What really makes this mouse unique is the fact that it is the first mouse which has been truly developed for the European market. This is evidenced by the packaging which has been produced in four languages".

Like many recent releases the 2 in 1 mouse can be used by either an Amiga or ST and has a resolution of 220 dots per inch. It is packaged with a mouse pocket and a discount voucher for a Mindscape Software title. Price, £19.99.



Arnor packs get better

IMPROVEMENTS have been made to Arnor's Amiga wordprocessor, Protext. The main attraction in version 5.5 is the inclusion of a 43,000-word Collins thesaurus which lists possible alternative words.

Among other features added are automatic hyphenation, widow and orphan elimination, analysis of text by the number of times each word is used and mailmerging directly from the company's Prodata database which itself has undergone changes.

Prodata 1.2's enhancements are pull-down menus, automatic record numbering, merge database, instantaneous filtering, prologue form, edit fields in any order and two-across label printing.

Protext costs £152.75 and Prodata is £99.88. Upgrades for both packages are available for between £30 and £60 from Arnor (0733 68909).



Cheapest 9-pin launched

THE world's cheapest and newest 9-pin printer has just been introduced to Silica Systems' (081-309 1111) product range.

The Seikosha SP-1900AI prints at 192 characters per second in fast mode and 40 characters per second in near letter quality. Epson-compatible, it has a buffer of 1K and can handle two-sheet multi-part paper.

The Seikosha costs just £125

More play for Amiga

AMIGA games players have had their wide choice of joysticks expanded further with the addition of two Amiga models to the QuickShot range. Both have the now standard microswitch control.

Maverick 1M features include a four-position operating mode selector, arcade-type control stick, two fire buttons, player one/two selector and autofire option. With a 4ft cable, Maverick 1M has suction pads on its base and costs £15.99.

Python 1M is a micro-switch version of the earlier Python 1 joystick. It is described as having an ergonomic design and has two fire buttons in addition to an auto-fire switch. Price £10.99. Contact Bondwell Europe (081-365 1993).

DIARY DATES

6 to 8 September 1991
Computer Entertainment Show
Organiser: EMAP
(071-404 4844)
Venue: Earls Court 2
If you're interested in games, a trip along to Earls Court II is a must.

15 to 17 November 1991
World of Commodore
Organiser: ITP Exhibitions
Venue: Earls Court 2
The 15th Commodore event, which already has huge industry backing.

5 to 8 December 1991
Computer Shopper Show
Organiser: Blenheim
(081-868 4466)
Venue: Wembley Exhibition Halls
An opportunity to buy some bargains before Christmas. It's expected to be much larger than last year's show.

7 to 9 February 1992
5th International 16-bit Computer Show
Organiser: Westminster Exhibitions
(081-549 3444)
Venue: Novotel, Hammersmith
The first post-Christmas Amiga show. Expect plenty of bargains.

OVERSEAS

20 to 22 September 1991
Amiga World Benelux
Organiser: InterExpo and Media Holland
(010 31 040 528191)
Venue: Fair Building, Eindhoven
Much to be seen, including the CDTV and a 3D laser show staged with the help of an Amiga.

● If you are organising a show relevant to the Amiga and it is not listed above, please let us know so that we can include it in Diary Dates

WHAT'S new USA



Report by Denny Atkin

The summer is often a slow time for new software in the United States – Amiga users are more interested in lounging by the pool or playing volleyball at this time of year.

However, with the hot and humid summer we've been having, the stream of new products being released is more than welcome. Sitting in front of your Amiga begins to look awfully attractive when it's 95 degrees outside, with 75 per cent humidity.



Long summer evenings in the US can always be spent stargazing, unless the typically summer severe thunderstorms are passing through. But now we can examine the skies even on cloudy, rainy nights, thanks to Virtual Reality Laboratories (2341 Ganador Court, San Luis Obispo, CA 93401).

Their new release, Distant Suns 4.0, is the most amazing planetarium program I've seen for any computer. Earlier versions of the program, which were known as Galileo and Distant Suns 3.0, respectively, were amazing in their own right, but this update has more features than most productivity programs!

New features in this $99.95 program include an ARexx interface, multiple screen resolution support – including overscan – and the ability to view the stars from a point up to 400 astronomical units from our sun.

Also new is animation capability. For instance, you can create an animation showing the path of Halley's Comet as it passed through our solar system recently. You'll need two floppy drives and 1Mb of memory.

Interestingly enough, four versions of the program are available: AmigaDOS 1.3, 1.3 with math co-processor, 2.0, and 2.0 with co-processor.

VRL have also introduced a number of accessory disks for the program. Perhaps the most impressive are the Space Visions disks, a collection of IFF images of the moon, Mars, spacecraft flights, and deep-sky objects.

This fascinating 25-disk set has absolutely spectacular images that can be viewed with standard IFF viewers, or from within Distant Suns itself.

They're available in theme sets (Voyager, Apollo, etc) for $7 to $20, or $100 for the entire 25 disk, 246-image collection.



Light summer reading

For those Amiga nuts who do actually spend some of their summer time lounging by the pool, there's a new book that will make interesting poolside reading. Addison-Wesley (Reading, Massachusetts 01867. Tel: 617-944-3700) have published the first in the AmigaDOS 2.0 Technical Reference Series, *The Amiga User Interface Style Guide* ($21.95).

This book is an invaluable reference for both the casual and professional Amiga programmer. It explains the issues programmers need to understand when creating user interfaces for their Amiga software. Commodore have finally decided to encourage some standards, so you won't have to deal with a completely new interface with every program you purchase.

Topics covered include the proper way to handle windows, requesters, menus, shell commands, and ARexx interfaces within programs you write. Technically-minded users who don't actually write code, but wonder why things work the way they do with Amiga programs, will still find lots of

Workbench 2.1 – already!

Since Commodore have finally shipped the Lowell card, what's coming up on their release schedule? Would you believe Workbench 2.1?

No, that's not a typo. I realize that Workbench 2.0 hasn't even shipped yet. Apparently the final version of Kickstart 2.0 (Kickstart 2.04, version 37.175) went to the rom burners about two months ago. The word is that 2.0 is finished, and is only waiting on the marketing department to get around to packaging it and shipping it.

Now, it seems the Commodore software engineers are busy working on Workbench 2.1 already! It seems that 2.1, which will be a disk-only update, will add in all the little extras that Commodore didn't have time to slip into the final 2.04 rom release.

Among the features that might be included in the 2.1 release are the internationalization support – for those of you dying to see your Workbench menus in German – and scalable Compugraphic outline fonts, although these might make it into the 2.04 release at the last minute.

Well, those are the hot new Amiga products released in the USA this month. I'll be back with more news next month, after I get the sand out of my Amiga from the beach trip.

Digitized beach bikinis

Amigans who go so far as to leave their machines behind and go on a summer beach trip can digitize their bikini pictures using ASDG's new software for the Epson 300C scanner. The software, available separately or as part of a scanner bundle from Prime Option, Inc. (2341 West 205th Street, Torrance, CA 90501. Tel: 213 618-0274), revolutionizes high quality, low cost (as far as 24-bit scanning goes, anyway) colour scanning on the Amiga.

For a retail price of only $1995, you get an 8.5 x 11in bed, 300dpi resolution, flatbed scanner that supports 16.7 million colours, along with full software support. Images can be



saved in Amiga IFF or IFF24 formats.

Two versions of the scanning software are included. One is a loader for ASDG's Art Department Professional that lets you scan directly into that program. You can then process the image and save it in any format supported by ADPro.

The second program, for folks with less memory, more demanding scanning applications, or who don't own ADPro, uses a virtual memory technique to scan large images directly to disk.

So you've now scanned a great picture of you and your dog, Agnes, surfing in the Atlantic. At 300dpi, the detail in the picture is fantastic, but it's also 1024 x 1024 pixels, forcing you to scroll around the screen to get the whole picture.

Well, now you can view your surfing puppy in all her glory using Commodore's A2410 hi-res graphics card, which was finally officially released in the US on June 24. The long-awaited card for the Amiga 2000 and 3000 was developed in conjunction with the University of Lowell in Massachusetts. It provides 8-bit plane output (256 colours) from a palette of 16 million colours.

Supporting resolutions up to 1024 x 1024 pixels, the A2410 has one megabyte of dedicated video memory and a TI34010 graphics processor for speedy graphics updates. Designed primarily for the A3000UX UNIX system, the card supports X Windows and Open Look applications. It's not supported by Workbench applications yet, but third party programs such as Art Department Professional are expected to support it soon.

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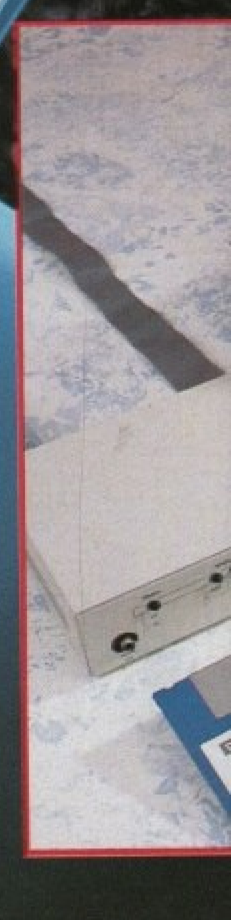
protar

Spitting image

Whether it's grabbing granny, digitising the dog or scanning snapshots of the kids, Paul Austin and Stevie Kennedy have the answers to importing images and art into the Amiga







With the home video explosion of recent years the portable video camera has become a near essential for everything from family weddings to the edited highlights of Uncle Albert's hernia operation.

The second of the two subjects gives a graphic example of a common video enthusiast's problem, namely a desperate lack of material. After all when you've seen one hernia op you've seen them all.

As usual, the Amiga has the answer – to both the problem of idle, not to mention expensive, hardware and the tricky question of how to import imagery into your machine.

It's true that scanners can't be touched for quality but if you've ever tried to get an instant close-up of Auntie Doreen's rear proportions with a scanner, you'll know all about the limitations of the average flatbed machine. Basically, if it's not flat it won't work, it's that simple.

The spontaneity and flexibility of digitising is its real strength.

All that's required is a keypress and it's captured, and with real-time digitisers snapping away at 50 frames a second, animation is merely a matter of memory.

SuperPic

As usual we'll start at the top, with the state of the art in Amiga digitising. If pure picture quality is what you're after, JCL's duet of digitisers are very hard to beat both for cost and performance.

SuperPic is the more costly and powerful of the two, offering all of the abilities of its counterpart ColorPic plus the added attraction of a built-in genlock. The genlock itself is a simple exponent of the art when it comes to overlaying Amiga imagery on to video, but nevertheless it does the job and can still be used separately if you want to explore other applications apart from digitising.

Unlike many of its lesser rivals, both SuperPic and ColorPic are real-time digitisers and as a result can snap the incoming imagery from either the camera or VCR at the same rate at which it is produced. To achieve this, every 50th of a second a new image is imported into its frame buffer, overwriting the last. As soon as the appropriate image appears it can be frozen in the buffer and imported into the machine.

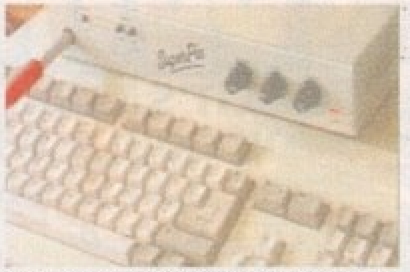
This ability to freeze means that prerecorded footage can be imported very easily because there's no need to invest in expensive floating head video equipment – which is essential with other systems in order to freeze the image completely prior to importation. If, for example, you tried to grab moving imagery on a system without a frozen frame buffer, the pause between the importation of the RGB elements would invariably cause blurring.



Hold still and a scanline is just possible, but the tell tale eyelash gives the game away



An instant grab thanks to daperpics Ham + mode



What scanline was meant for, importing still life at it's best

Because this freezing process occurs externally the Amiga is left free to monitor the action for more potential imports. At the moment up to four images can be stored within the buffer and then imported into the Amiga.

This potential for multiple storage is soon to be exploited to the full with the release of JCL's new Animate upgrade, which is almost ready for release and will be covered in glorious colour in a forthcoming issue of the mag.

The Animate hardware and software is essentially a memory and editing expansion which will make the JCL range the only full colour real-time animation package on the market. Animation is nothing new to digitising, as Rombo's complete colour solution and Datel's new Video Digitiser II are well blessed in the art but are nevertheless still tied strictly to monochrome.

Although SuperPic is primarily dedicated to colour, it's still quite at home with monochrome and will import either colour or black and white in a variety of formats. Hi-res, lo-res 16 colour, right up to to the dizzy heights of Ham+, all with optional Interlace which does invoke the necessity for a static image.

The flexibility and ease of interaction gives the JCL option its real strength. For example, to import an image you simply select the resolution and hit Z to freeze, and if you're happy then hit I to import.

The grab is made instantly, with the only exception being the scanline Interlace option which gives the highest possible quality but does require a totally static subject.

Distributor: JCL Business Systems
(0892) 75791
Price: £499 (£585 with 192k ram card)





Sabatini and Stephie captured direct from video

The Rombo option



Rombo's complete colour solution is a combination of two modules which combine their efforts to produce both monochrome animations and full colour, still-frame ham images.

The first of the two modules is the original digitiser itself which will snapshot images instantly from an incoming source, whether that be VCR or camera. It does this by sampling each frame in succession until all of the available memory is eaten up. Once it is full it cycles back to the first frame and rewrites over the original.

Up to 16 frames can be stored on a one meg machine and once a sequence is recorded it can be either animated as a whole or alternatively individual frames can be selected, edited and saved as required.

The constant loop does make capturing just the right moment much easier but it must be said that the image quality isn't quite as high as some of its opponents. However, the animation option goes a long way towards making up for the occasional grainy picture.

There's quite a good range of options and tools specifically for animation which help to edit your creations, as well as for recording and appending new ones. A particularly pleasant touch is the window option which allows new frames to be imported into defined boxes within the screen, and because each frame is made up of a 16 grey scale image, there's no clash of palettes when extra frames added, even in Interlace.

The system isn't entirely colourless as it's possible to edit each of the 16 shades of colour that make up the image. This is done with a series of preset tinted palettes, or alternatively you can edit each shade manually to produce a really nauseating display.

After you've ruined a few frames you can animate the lot, sending epilepsy sufferers running for cover while hundreds of punters fresh from the Hacienda nightclub start screaming "Acccid...." and begin bopping around the room.

Anyway, that's enough about monochrome, it's time to add a little colour, and to do it Rombo have produced Vidi RGB which comes as a very welcome replacement for their original and totally silly colour wheel.

In the bad old days composing a colour Ham with Rombo hardware meant three exposures, each of which required a separate colour filter to be held in front of the lens.

In effect, nothing has changed as the three exposures are still required but now they're done by the hardware over a period of approximately a second.

This may seem quite fast but as someone once said, a second is a long ➤

time in show biz, and as a result the subject must be static or things soon become very fuzzy indeed.

Because of the prolonged exposure, Vidi RGB is quite limited in its grabbing abilities. Basically, if the image isn't completely rock solid the image will be blurred.

To achieve reasonable quality you need either an expensive floating head VCR or a tripod-mounted camera providing a live video source.

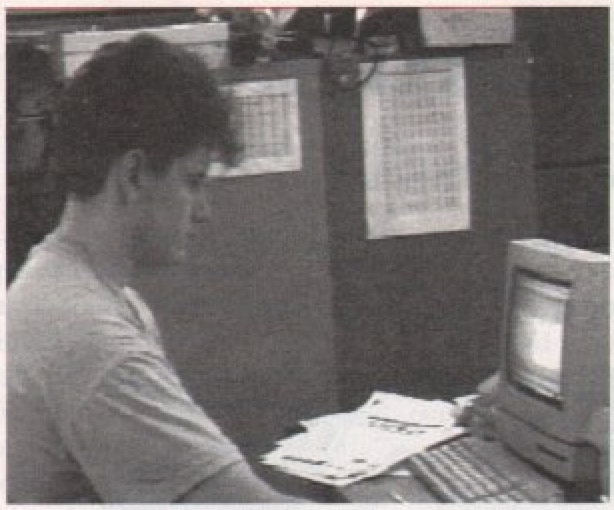
For obvious reasons the subject must be static and willing to stay that way for a while, but once imported the results can be impressive.

Like its predecessor, Vidi RGB is blessed with various options and controls, from individual importation, display and save for either red, green, and blue, right through to full colour ham grabs complete with Interlace.

Given a steady, high quality rostrum or tripod-mounted camera Vidi RGB's results can be impressive, but if convenience is what you're after it's probably not the best bet.

This is due in part to its static requirements but there's also a good deal of fiddling required with various controls to achieve optimum results.

Vidi-Amiga: The Complete Colour Solution
Distributor: Rombo Ltd (0506) 414631
Price: £179 (includes RGB Splitter)







Rombo's masterpieces the good, the bad, and the ugly, but which is which?

Video Digitizer 2

Video Digitizer 2 (VD2) is an attempt by Datel to provide a video peripheral which will digitize in real-time from a moving video source and is capable of producing digitized animations from same. For less than £90 they have done their best to cram into a small plastic box the sort of video facilities many Amiga owners usually only dream of, and in the main they have succeeded.

VD2, of course, is by no means pitched at the high-end market where units like JCL SuperPic reside. Instead, it has been built to sacrifice colour and picture quality for economy and ease of use. To this extent, there have been trade-offs which mean that VD2's pictures are of a lower quality.



When compared to equipment such as Vidi-Amiga and Digi-View, however, both of which are in a higher price bracket, the Datel unit begins to shine. VD2 has no colour option, but when its 16 grey scale monochrome images are compared to those from the more expensive units, there is virtually nothing to choose between them.

VD2 has been designed as a piece of equipment any Amiga user could plug in and use from scratch. Connecting it to your Amiga is a simple matter of slotting it into the expansion bus on the left- hand side of an A500, or the video slot in the A2000. Contrast and brightness knobs on the back of the unit form its only hardware controls, the rest being accomplished with the VD2 software.

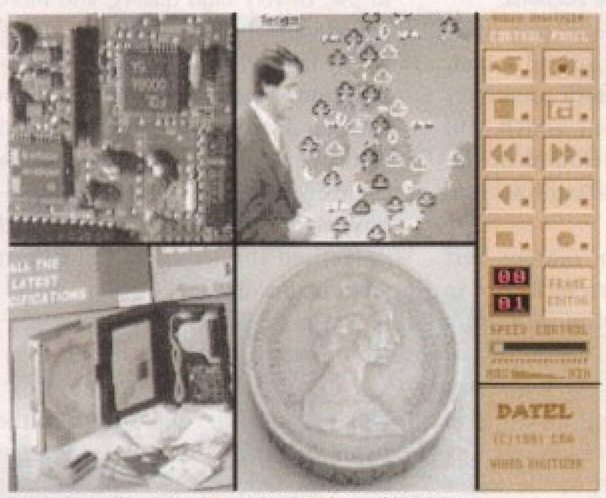
The software is hugely friendly and I found it easy to digitise an entire series of decent images without resorting to the manual. The main control panel has a bank of icons on the right-hand side of the screen and a 256 by 256 pixel digitising area.

With an external video source connected to the video in phono socket on the rear of the unit, all the user need do to bring the video source onscreen is click on the video camera icon at the top of the panel to begin continuous monitoring. VD2 will update the display at the rate set by the slider at the bottom of the panel, but in reality it is only capable of digitising and refreshing the screen display at two or three frames per second.

If you want to construct an animation from your favourite movie, therefore, you'll either need to do several passes over the piece of film you need, then stitch the frames together in the frame editor, or use an expensive VCR with a single frame or perfect pause feature.

The frame editor is VD2's most useful feature. It is here that the user has the option to advance through his or her digitized sequence one frame at a time, cutting, pasting and copying frames as required, inserting them into a sequence, and generally constructing the video animation.

There are options to copy to and from buffers, loop an animation, take snapshots of single frames, and record or cut from a definable range of frames. There is even a time-lapse option so that with a machine with more memory you can take time-lapse frames over a period of 24 hours, thus giving one the option to watch a flower bloom or record the amount of traffic at a road junction at different times of the day.



Datel's excellent imagery and control panel in action

Those wishing to squeeze the biggest animation possible on a disk, can squeeze a sequence into a quarter frame for re-display on floppy-based half meg systems.

Distributor: Datel Electronics
Price: £89.95

Conclusion

If you want to dabble in video or want a cheap time-lapse video monitor, VD2 is an excellent choice. It is affordable and packed with enough options to make it a really useful low-end digitizer and video animation construction kit. Not one for the video professionals, and of little use with serious video applications, VD2 is still one of the most fun pieces of equipment we've had in the office in a long time.

Taking the tablets

Is your artwork ailing? Could a tablet be the cure? We investigate imagery created the old fashioned way

Computer art has long been an acquired taste, not to mention talent, thanks to the restrictions of the mouse. As a result the average free-hand artist would rather burn his brushes than wrestle with a rodent.

To combat the inadequacies of our furless friend an alternative is desperately required – enter the graphics tablet. This marvellous device is usually a customised import from the corporate world of Apple Macs and the ever-present PC. Fortunately, most PCs are happy with a standard RS232, and as a result conversion to the Amiga is a reasonably simple matter.

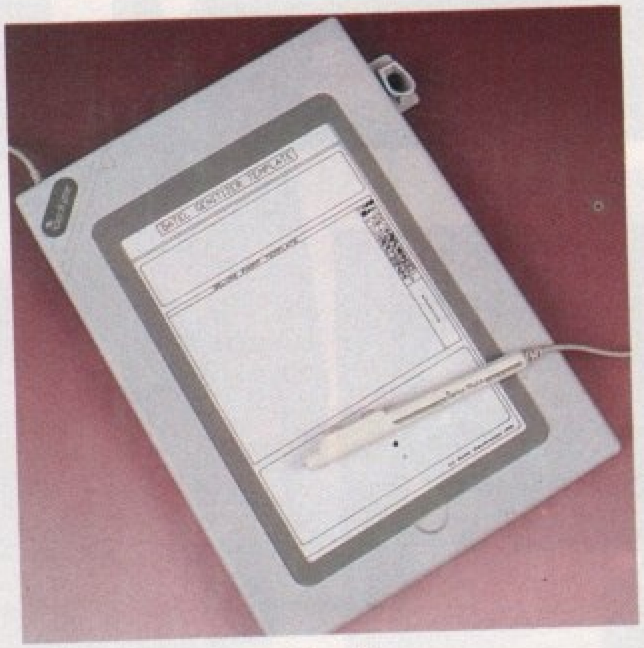
However, before any tablet can be adopted by the Amiga a suitable driver must be written to convert the output from the tablet into a readable format for the Amiga. Once the driver is installed, either the puck, which strongly resembles a rodent with a cross hair, or the more familiar stylus can take the place of the rodent with all manner of Amiga software.

Both tablets featured are the latest players in the field of Amiga art, which until now has made graphics tablets mainly the preserve of professional artists and CAD enthusiasts, thanks primarily to the high price attached to early Amiga versions.

Aficionados of Amiga art may recollect the existence of a third tablet, namely the Podscat, which admittedly is an older model but which still would have been included in the round-up if HB Marketing had supplied one.

They didn't bother for reasons best known to themselves so we'll have to struggle on with the new stuff. It's a cruel world...

Before you can exercise your artistic flare there's usually a short trip to Preferences where the various bits and baud rates are set so the tablet can communicate with your serial port. If you're not a comms fan, fiddling with such things may seem a little painful but in fact it's simplicity itself and once set it can be saved for posterity and never need be fiddled with again.



Genitizer

The Genitizer is the latest offering from Datel and is bound to fill a gaping hole in the artistic market, being both easy to use, of very high quality, and more importantly, cheap.

The tablet itself is a straight conversion from a popular PC range which has long dominated the market on that particular machine. Datel, not being a company to miss an obvious opportunity, wrote their own software and unleashed the latest and cheapest tablet on the market.

What's in the box

After the postman's knock you'll be the proud owner of a brand new 9 x 6in tablet, a template depicting the Dpaint screen plus all the relevant connections and, of course, the essential power supply and stylus. The puck option isn't available at present but will be stocked given sufficient demand.

The design of the unit has been very well thought out, being ideal for laptop operation and includes little extras such as stylus holders and a useful flap which allows any paper-based art or design can be slipped under the plastic and traced with ease.

Once connected to the serial and power it's a simple matter of clicking on an icon to install the driver and you're off.

Although Dpaint is the only template available you'll find the tablet works with all manner of software and to be honest, once you're comfortable with the rather strange sensation of using a pen without watching it, the template soon becomes redundant. Of course if you were particularly keen you could always make your own templates with the aid of the tablet and then print it out.

At first I must admit I found the feel of both the Numonics and the Genitizer rather strange in comparison to the feedback from a pen or pencil. As you might imagine, plastic on plastic can't replace the friction and interaction of a pen but this isn't to say there isn't any sensation, but it's certainly different and a good deal less subtle than the average HB pencil.

Once I came to terms with the sensation drawing was easy, and like the mouse, a double button system means that using software is very reminiscent of the mouse because identical clicking combinations are used. Because the buttons are in parallel rather than side by side, certain dual button operations can be a little tricky at first but they are still a good deal less complex than the Numonics' single button format.

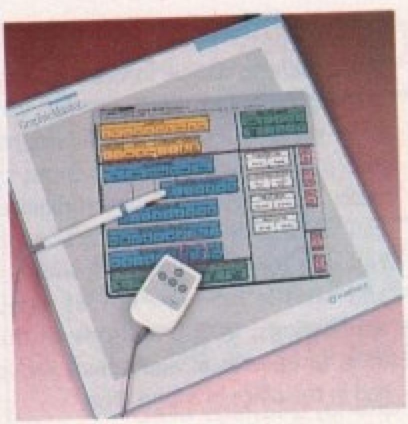
Perhaps almost as important as the feel of the tablet is its accuracy. The Datel boasts an accuracy to the nearest hundredth of an inch and a resolution of up to 1,000 lines, so there shouldn't me any problems in that department.

Speed is another prime necessity and again the Datel tablet does well, generally managing to keep pace with even the fastest strokes of the stylus. The only problem I found was the odd glitch when swapping between formats. Bench testing a tablet isn't the easiest thing to quantify which is why we went for the plain and simple signature test. Each of the contestants signed their name at normal speed so they should give a reasonable idea of the accuracy and speed of both tablets.

Distributor: Datel Electronics
Price: £129.99



Datel's genitizer: cost isn't always the best way to improve art



GraphicMaster

OK, if bigger is indeed better, then the Numonics offering – namely GraphicMaster – is in very good shape to take the prize of top tablet. However, my short and incredibly Scottish counterpart Stevie Kennedy insists that "that's a load of cobblers" and anyone who says different had better have some sewing lessons!

Not for the first time I must concur with our Celtic hero as the Numonics is indeed bigger but not, I must admit, noticeably better than the diminutive Datel.

Having said that there are some who will no doubt appreciate the extra space the GraphicMaster has to offer.

A full 12in square working area is available, and to be fair it does make subtle adjustments a little easier.

The only minor drawback to the wide open spaces is the rather disproportionate movement to image ratio which creates onscreen imagery actually smaller than the movement of pen or puck would imply but again, this is purely a matter of taste and practice. Setting up the Graphics master initially follows the same pro-

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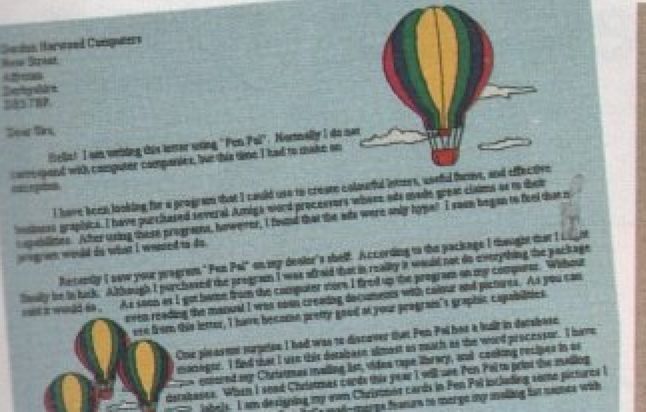
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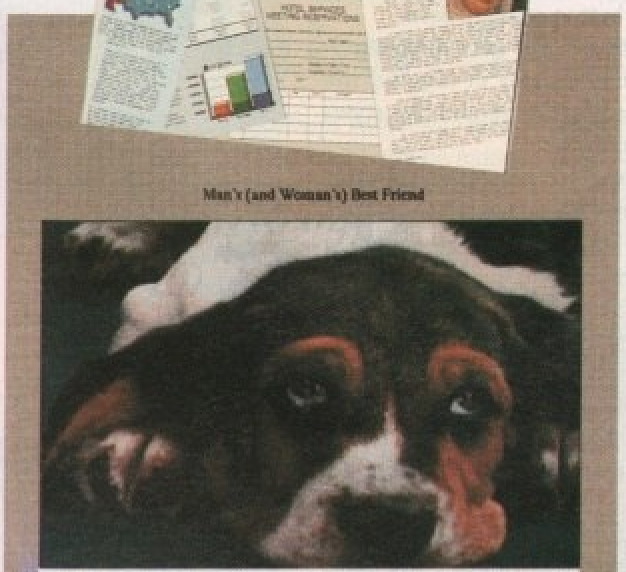
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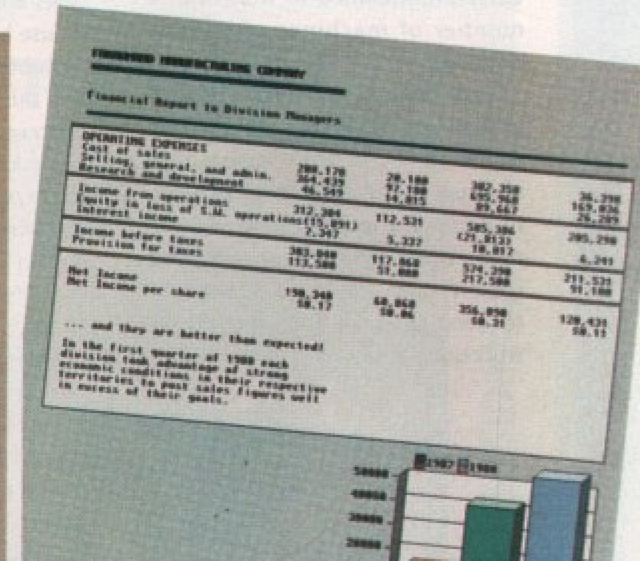
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Numonics shows its stuff with a mixture of stylus and pack productions

cedure of installing drivers and adjusting preferences but after the Amiga part of the equation is complete, it's over to the tablet and its very own Firmware configuration system.

The word Firmware refers to the built-in comms software which can be preprogrammed, stored, and recalled from eproms as required. Up to four individual tablet configurations can be held within the tablet and recalled via the overlay.

Programming the tablet is a simple matter of punching in a variety of options offered via a control template. By simply following the overlay and the rather murky Amiga orientated instructions you'll have the tablet up and running.

Although the configuration of the tablet is limited on the Amiga, the varied Configuration option does lend itself to multi-format use. If, for example, you have the appropriate driver, the tablet could be easily programmed to work with a number of machines of various design.

Each machine could have its own predefined Firmware configuration which could be easily accessed on boot-up, so if you're either wealthy, or work in a multi-format environment there's no reason why you couldn't leap from one machine to the next and take your favourite art workalong with you.

Adjustment and accuracy

The multi-format option has to be a selling point and such flexibility doesn't come as a surprise after a brief glance at the manual. It's blatantly PC and the Amiga is obviously no more than an afterthought – its section of the manual consists of a series of photocopied pages slipped in among the countless references to Macs and the omnipresent PC. After all the firmware is finished, the final bit of tinkering is to calibrate the tablet. This is a simple matter of clicking on the outer edges of the active area to give both the tablet and the Amiga an idea of what they're dealing with.

This process has to be done directly after driver installation, achieved thanks to a fine tuning utility which gives access to alternative tablet configurations and various fine tuning options.

After calibration is complete you finally get to explore the possibilities offered by the tablet's accuracy of one hundredth of an inch, which matches the Datel Tablet offering punch for punch.

A little touchy

The feel of the Numonics is a little clumsy and it takes a fair amount of practice to master the single button stylus. A combination of button clicks and stylus pointer depressions are used to access the various mouse button combinations.

Another rather annoying point is the tablet's habit of lagging the onscreen image behind the stylus or puck.

On occasion I found myself pausing while the screen was updated, not an ideal situation when you're in full flow.

To be fair to the tablet, a spokesman for Numonics did suggest that these faults might have more to do with the age and condition of their review model, rather than a design flaw within the tablet itself.

Unlike Datel's Genitizer, the GraphicMaster doesn't use templates or a transparent flap to trace but rather sticks strictly to the screen when interacting with the user. To be honest, with the possible exception of tracing, it's not really a problem

Distributor: TDS-Numonics
(0254) 676921
Price: £185 (12" by 12")
or £290 (12" by 18")

Hand scanners

The problem with hand scanners is that after almost a decade of existence, they have, on the Amiga at least, achieved something of the status of an industry standard from which the various models deviate in only minor ways. That's not to say they're all the same. It just means they succeed to a relatively similar extent in doing what they set out to do.

The only major differences at first apparent are in the software used to control and display the data gathered when the scanning head makes its pass over the subject. This is crucial to the appearance of the final image and is therefore the main focus of this *Amiga Computing* round-up.

From the punter's point of view, all three scanners have identical hardware. Regardless of any electronic differences on the inside, the three units all sport the following controls: a selector for 100, 200, 300, and 400 dpi scans; a wheel control for light-dark setting; and a switch offering three dot sizes and a setting for text scans.

All scanners have a thumb-operated scanning button, necessitating their use with the right hand, unless you're left handed and have an unusually dexterous little finger.



Power scanning with Sharp





Pandaal Scanner

The Pandaal scanner is the latest Amiga hand scanner, and has the most user-friendly software. The Daatascan program opens to a very intuition-based interface which goes into overkill when offering the user a variety of menu and icon options. With a gadget strip on the extreme right, a settings panel, and an extensive selection of pull-downs, most settings and controls are doubled up on, and some are duplicated three times.

The new user will find three ways to begin a scan. You can click on one of the scanner icons, select one of the three options from the scanner menu, or press F1 to F3.

The most useful feature of the software is the ease with which you can scroll around the image just scanned. As these are often far greater than screen size, the familiar drag bars on the image window are a real blessing.

The clipboard option allows the user to cut or copy parts of the image to a smaller window which can be resized and moved around at will – as can the main image window – then pasted back into the main window. This is much more useful than the buffer approach taken by some other scanning software.

My main gripe with the Pandaal is that its scans are often very dark. The contrast and brightness of an image can be retouched in a paint package, but it's still annoying.

Distributor: Pandaal Marketing Ltd (0234) 855666
Software: Daatascan Professional
Price: £179.99

Geniscan GS-4500

The Datel Scanner, despite having easily the most unfriendly software, is capable of producing some of the nicest images.

HandyScan has been around for quite a while, and in its latest incarnation it still looks a bit dated.

Upon loading, the user can choose to open up in either Interlace or Workbench resolutions, but once the choice is made the display reverts to a black screen with a single menu strip. across the top.

If the beginner expects icons and gadgets, this program could easily baffle and confuse. In addition, the size of the scanning area is set not in inches, but in pixels and pages. Although this makes cropping easier to judge, it makes relating the screen page to the target photograph a lot more difficult.

A buffer approach is used so that images can be stored away in memory while a new image is being scanned.

While not as user-friendly as Pandaal's clipboard feature, it has the advantage of being able to swap images quickly to and from the buffer, thus enabling the user to experiment with the scanned image while a copy resides safely in the buffer.

Probably the Datel's best feature is its ability to open up in Interlace mode.

The scans achieved while in Interlace are considerably better than those taken in standard medium resolution and are ideal for DTP work, most of which is also done in Interlace.

Distributor: Datel Electronics
(0782) 744707
Software: HandyScan 3
Price: £129.99



Golden Image Scanner

Touch-Up is probably the most flexible and powerful scanning software of the three reviewed, but it falls between the Pandaal and the Datel for user-friendliness. The appearance of images scanned using the Golden Image scanner closely resemble that of the Datel images, although the scanner itself looks almost identical to the Pandaal. Once the images are in memory, however, Touch-Up works very well.

There are the usual cut and paste options to rearrange images onscreen. Anything cut is saved as a clip and is easier to manipulate than the buffer approach taken by Datel. In addition, once a clip has been defined by dragging the clip box around it, some quite sophisticated operations can be done such as Slant and Cleanup – to eliminate isolated pixels. The main image itself can be subjected to a barrage of paint effects, including pattern fills and airbrushing, and there are again a few surprisingly advanced features available, such as splines and Bezier curves, lassos and complex brushes.



As a monochrome paint package, Touch-Up would be a pretty decent stand-alone package, so as a scanning retoucher it is about as complex as you can get. In fact, just about the only criticisms I can level at it are that it is slow and, for simple scanning, a bit overcomplex.

When moving around a large scanned area, the user will have to wait for the screen to update, and some of the program's more involved operations will test your patience. If you can stand the wait, however – and the 170 page manual – Touch-Up is a worthy piece of software.

Distributor: Golden Image
(081) 518 7373
Software: Touch-Up
Price: £149.99

Sharp JX-100

As mentioned earlier in the column, if quality is what you're after scanners provide the ultimate answer to the problem of importing still imagery. Perhaps the best exponent of the art is the Sharp's JX range.

Our particular favourite is the junior member of the JX range, namely the JX 100 which has long been an essential in the *Amiga Computing* office. Perhaps a testament to its ability is its frequent use in the mag, all without a single complaint from even our most discerning DTP readers.

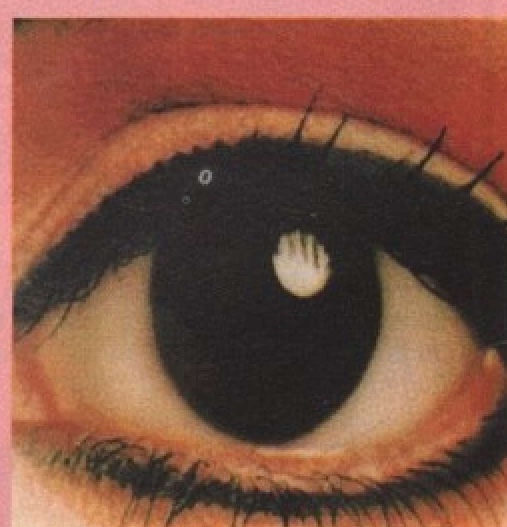
It's true there is a definite difference between a scan and what's known as "repro" but most people would need to look twice at smaller images to notice the difference, and in comparison with all but the most expensive Mac based flatbeds, the JX 100 is a reasonable compromise while the JX 300 is indistinguishable.

To be honest, JX 100 scans can be spotted with a little effort, but with colour imagery reaching 18-bit standard and a maximum resolution of 200dpi, it's amazing to find a unit with a "foot print" of 6.5 X 4in producing print quality images for only £695, including software and VAT.

Distributor: Silica System (081) 309 1111
Price: £695

Big brother: Sharp JX-300

If money is no object, or perhaps an A4-size "foot print" is essential, the JX 300 might well be more to your taste, boasting not only an increased scan size but also an impressive 300dpi and the ultimate quality of 24-bit colour.



Power of this magnitude rivals the majority of hardware in the world – of either the Mac or PC – and would happily meet the required standard of most publications.

Unfortunately there's a price to be paid for such muscle and because the scanner is primarily aimed at the serious Mac market, its price tag reflects the inflated cost associated with that particular machine.

Both scanners come with custom-built software that's very reminiscent of ADpro, ASDG's image processing classic.

The combination of the excellent hardware and the stylish, flexible and user friendly software make the Sharp range the only option for serious DTP fans who need to capture still images with style.

Anyone armed with either of the Sharp machines plus ADpro and some quality DTP software would be well on their way to becoming the next Wapping Liar, after all, you never can tell, church circular one week, the newsstand the next, who knows...

Distributor: Silica Systems (081) 309 1111
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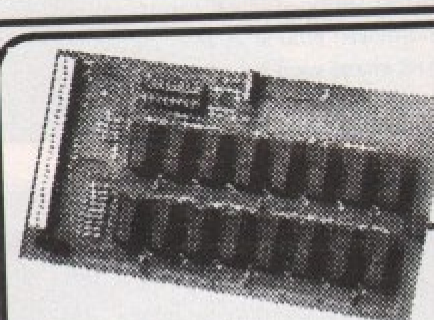
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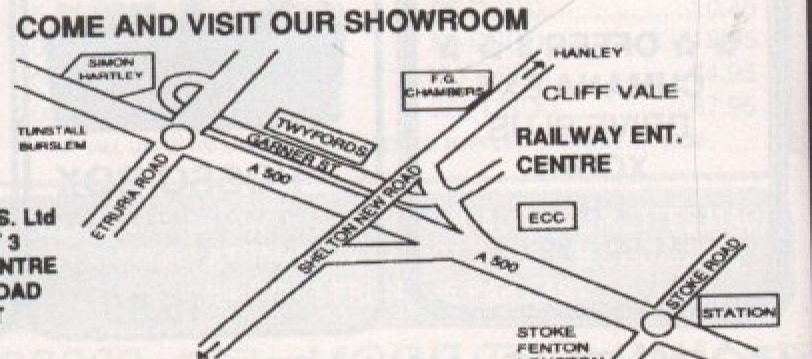
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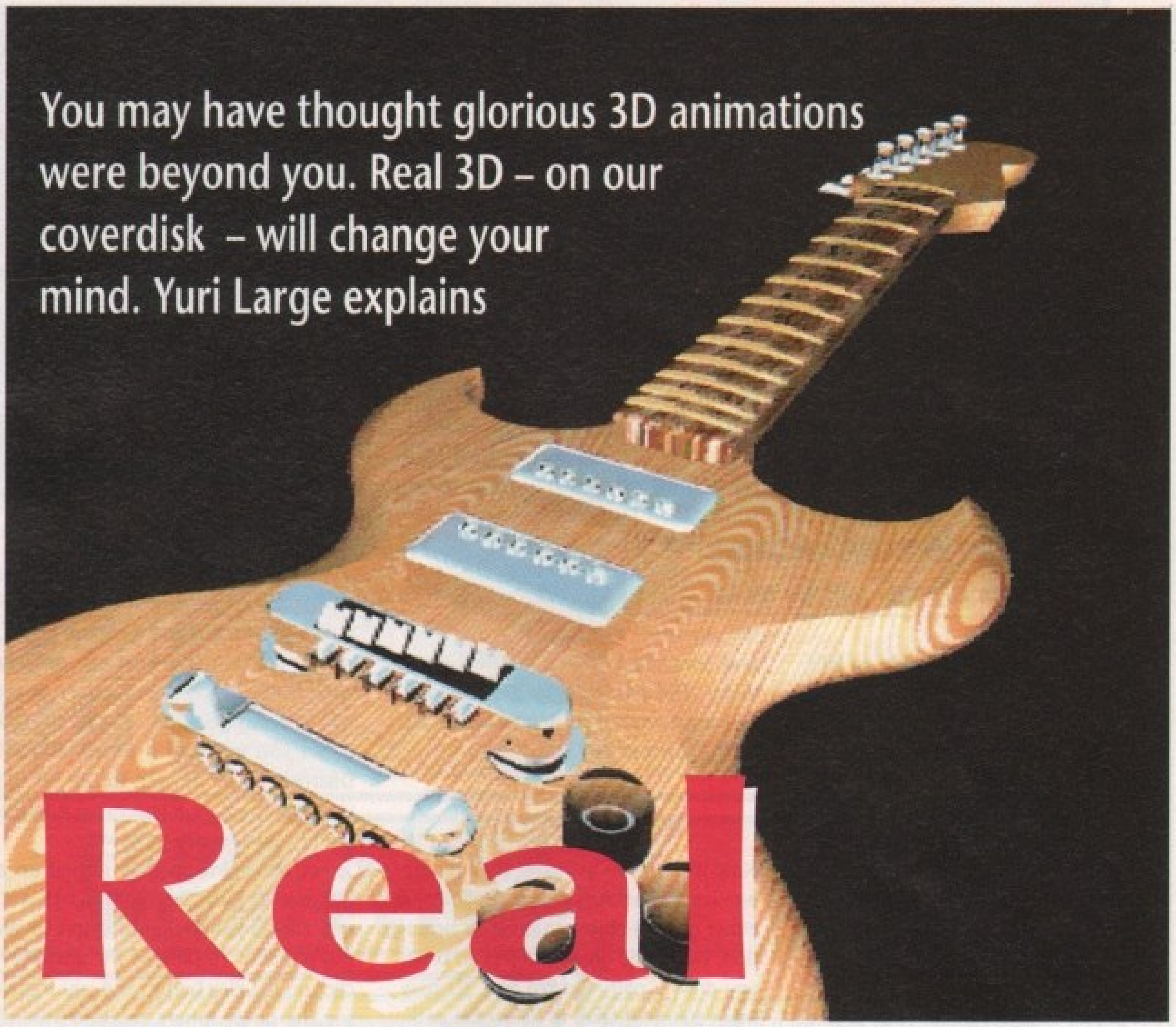
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Real 3D

You may have thought glorious 3D animations were beyond you. Real 3D – on our coverdisk – will change your mind. Yuri Large explains



For those of you who haven't yet seen it, the animation on this month's coverdisk is of the *Amiga Computing* logo flying around a ball. Have a look, words don't do it justice. Before we begin this tutorial, make sure you're sitting comfortably – you could get hooked!

As with most 3D modelling and animation programs there are three steps to follow to produce your animation. The first is to model the objects required and light them; the second is to animate and, if possible, preview the animation to check it; and the third is to render up each frame of the animation.

To begin, load the Real 3D demo program and you will see the editor screen with the familiar tri-view display which shows three views of the 3D universe. In Real 3D's case there is the front view in the top left quarter of the screen, the side view in the top right quarter, and at the bottom left you have the top view.

In the remaining quarter of the editor screen are the selection window and a set of gadgets which give access to Real 3D's object creation and manipulation tools. Finally, in the menu bar you will see a set of co-ordinates which show the current position of the pointer in 3D space.

Make it up

So the first thing to do is to create the bumpy ball. Select either Sphere from the Primitives sub-menu which is on the Creation menu – referred to as Creation/Primitives/Sphere from here on – or click on the Create Sphere gadget, which is the one second from the left in the second row. You should see the words Creating Sphere in the menu bar.

Move the mouse pointer to co-ordinate position 0 0 0 in any of the three views and click the left mouse button to fix the centre of the sphere. You will then find that moving the mouse enables you to reduce or enlarge the sphere.

Move the mouse pointer so that the radius figure in the menu bar reads 50, and then click the left mouse button to finish creating the sphere. At this point you should see a circle in each of the three viewing areas.

By the way, if at any point you want to cancel an operation while using Real 3D, you can do so by clicking the right mouse button.

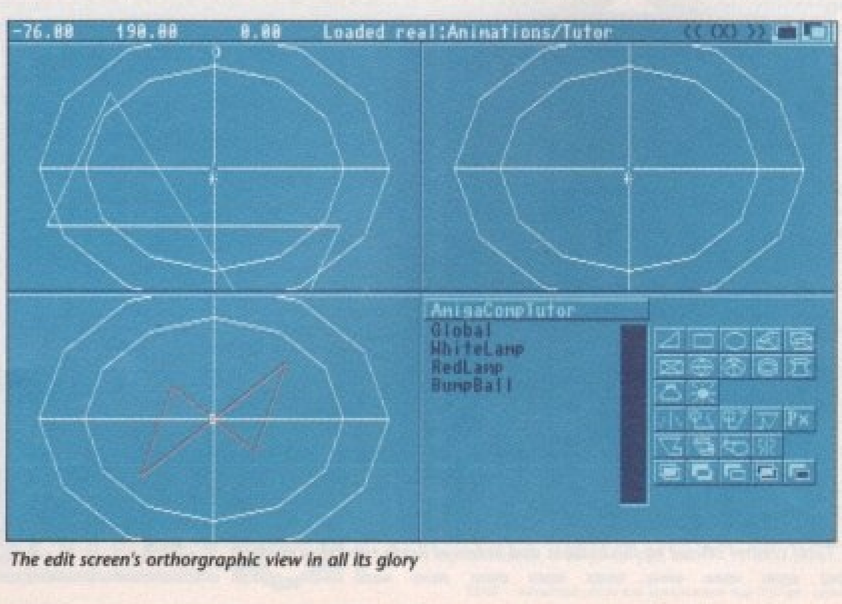
The sphere you have just created is now listed in the selection window as sphere1. You could keep this name, but it can get quite confusing when you are creating a complex scene and you have lots of them.

The best practice is to give all your objects relevant names. To rename this sphere, first select it by clicking on its name in the selection window and then select Hierarchy/Modify/Rename from the menus. You can then enter a new name – we used BumpBall.

When you create an object it is initially made from the default material. We want our BumpBall to be bumpy. Creating a bumpy material is very easy using Real 3D's extensive mapping facilities.

Select Projects/Material/Create from the menus, and you will be presented with the myriad of options in the material creation requester. The first step is to name your material by replacing the word mat0 at the top of the requester, ours is called Bumpy. Then change the Specularity value to 40 and the Specularity Brightness to 15 to give nice tight highlights on the ball. Now we need to give it the bumpy texture, which is achieved by loading a bump map. Click on the Picture button and a file requester will appear with which you can select an IFF graphic for the bump map. The IFF file we require for our Bumpy material is called Irregular, so click on it and then on OK.

If you want to have a quick look at the bump map, click on the Show button. What you will see is a small speckled red area. The intensity of the red in a bump map tells Real 3D how high to make the bump at any particular point on the material.



The edit screen's orthorgraphic view in all its glory

Wrapping bumps

In order to wrap the bump map around the ball you must select the Ball mapping type by clicking on the box where it says NO PAINTING until it reads BALL. The Ball mapping projection will map the bump map around the sphere's entire surface.

Next, we must tell Real 3D that we are using a bump map. To do this click on the MAPTYPE button which brings up a new set of options. You will see that the COLOR button is on. This shows that at present we are set up for colour mapping.

Colour mapping just takes the selected IFF graphic and wraps it on to the surface. We don't want to use colour mapping so click it off, and click BUMP on instead. Also, to get just the right effect change the Bump Height to 15.

So, we now have our Bumpy material which needs to be put on the

BumpBall. Select the BumpBall object from the list in the selection window – it shouldn't be hard to find because it's the only object which is in the list at the moment! Then you select Hierarchy/Modify/Material from the menus. This brings up a requester which shows the materials currently available: Default and Bumpy. Pick Bumpy by clicking on it.

The final thing that we need to do is give the BumpBall a colour. In the example animation we made it white. To do this, click on BumpBall in the selection window and then get Hierarchy/Modify/Color from the menus. Once you have done this Real 3D asks you to select a colour from the Colors menu – we used white.

The logo

The BumpBall is now complete, so let's create the *Amiga Computing* logo. In fact, the *Amiga Computing* logo was created in a rather ingenious way. It was done by taking an IFF picture of the logo and clip mapping it on to a second hollow sphere just slightly larger than the BumpBall.

Clip mapping removes any areas of the selected object not painted by the graphic, so we end up with just the areas of the sphere with the *Amiga Computing* logo on them. First, create another sphere centre 0 0 0 and radius 68 – don't forget to rename it, we called it Global.

Then create a new material. We called ours LogoClipMap. Set the LogoClipMap material for the following: Brilliancy 5, Transparency 100, Speed of Light 100, Turbidity 0, Specularity 80, Specularity Brightness 20. Also, select PARALLEL mapping and NO 0-COLOR. Click on PICTURE and load the AmigaComputing.logo file, then go to the MAPTYPE options and select COLOR and CLIP.

Now we have our finished material, let's put it on Global. Select Global from the selection window and go to Hierarchy/Modify/Material. From the materials list pick LogoClipMap, and there you have it – or do you?

In this case there is one more step required to complete mapping the material – a parallel mapped material also requires painting. Parallel mapping will map the selected graphic once on to the object selected but painting is required to tell Real 3D exactly where to put the graphic on the object.

In this case we want to put the logo horizontally across the middle of Global. To do this, first select Global in the selection window and then get Hierarchy/Modify/Painting. When you use Painting you are drawing a line on the object to show where the top edge of the graphic is to appear.

To start the line click the left mouse button once in co-ordinate position -42 14 0 and to finish it click at co-ordinate position 42 14 0. Our scene is pretty much finished now, all that remains is to light it, animate it and get the computer to render it.

Let's light it first. We are going to put in two lights to make the scene look interesting. The first light is a white light right in front of the scene, the second is red and straight above. Zoom out a little first to give some space to put the lights in. You can do this by pressing the minus sign key twice.

To create the first light click in the top view – that's the bottom left quarter of the screen – then go to Creation/Lamp. Click at co-ordinate position -7 -27 360 to place the light just slightly off-centre in front of the scene. Then create another lamp and place it at position 0 500 0, which is directly above.

We want to make the second light red, so select Hierarchy/Modify/Color and then pick red from the Colors menu. Did you forget to give the lights relevant names? Do it now. Ours are WhiteLight and RedLight.

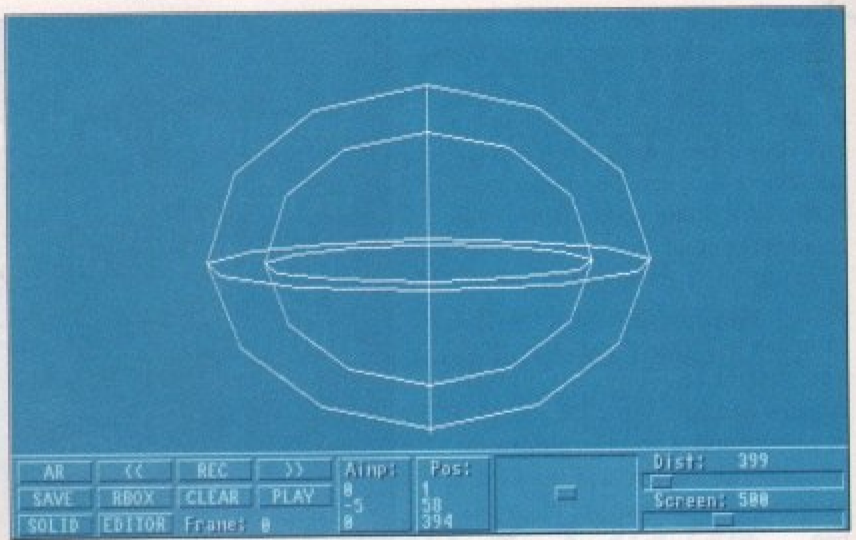
The ball rolling

Now it's time to animate. Real 3D has two ways of animating objects. You can either give an object an orbit or a rotation. When you give an object an orbit, you draw a path and tell Real 3D how many frames it takes to follow the path. A rotation is similar – you tell Real 3D at how big an angle to rotate and in how many frames. By combining these two you can produce any movement.

In this animation we'll use a rotation to fly the log around the ball. To do this, click on Global in the selection window. Then select Project/Animation/Rotation. Real 3D then asks for the centre of the rotation – click on co-ordinate position 0 0 0 in the top view and a requester will appear.

In this requester enter a rotation of 360 degrees from frame 0 to frame 59. To finish the rotation click on OK and that's it – how much more simple could it be?

To preview the animation we must move from the editor screen to the wireframe screen. Select Modes/Wireframe from the menus, and you will be presented with the wireframe screen which has a wireframe representation of the scene and a control panel.



The final framing of the image, made easy thanks to the wireframe

One of the things you can do very easily with the wireframe screen is set the viewing position. In the control panel you will find a slider labelled Distance. If you move it to the left the view will zoom in, if you move it to the right it zooms out.

For our animation we settled on a distance of 400. Set the slider to 400 and click on the record button to set this position. To preview the animation click on the Play button and you should see the outer sphere rotating around the central sphere. To stop the preview click on the Play button again.

Almost finished

If you don't fancy setting all this up or you can't quite get it right, you'll be pleased to know that the finished scene file is on the coverdisk. To load it go to Project/Animation/Load and select Tutor from the file requester, Real 3D will then load the completed animation file.

The final stage of the process is to render the frames. That is, to get Real 3D to ray trace the scene and get a wonderfully realistic picture. This process is initiated using the solid screen. To get to the solid screen, either click on the solid button in the wireframe screen or go to the Modes/Solid menu option in the editor screen. In this demo version of the program you will find that all the save options are disabled, so unfortunately you won't be able to save your pictures or the scene. Don't forget that you can still see the completely rendered animation, as it is on the coverdisk.

As an example let's render the first frame of the animation. When you enter you will see Real 3D's complete rendering controls. Select the options that we used to render the animation, and under Mode, select Normal. The Normal mode is Real 3D's complete ray tracing option.

Although it takes longest to render, the results are usually the best as Real 3D uses all the lighting and texture information in the scene to produce shadows and reflections. In some cases Normal isn't the best mode to use, but you will find that yourself if you experiment.

Single option

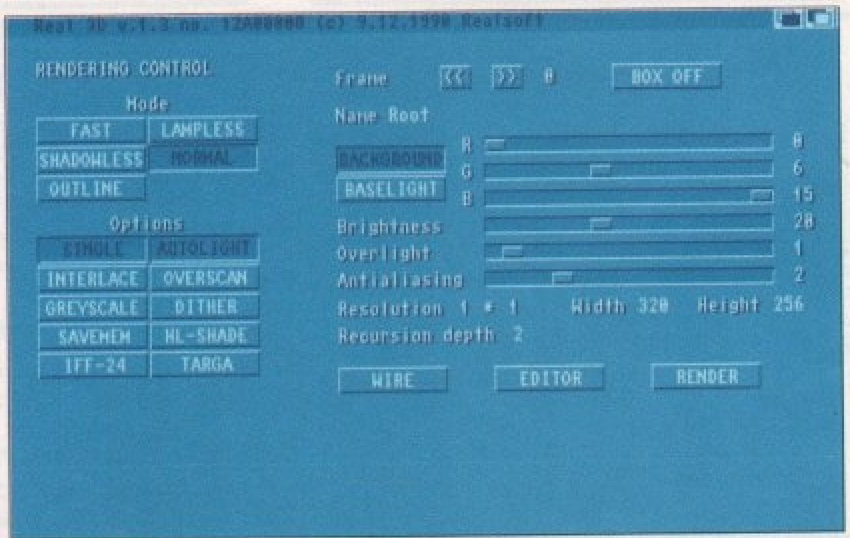
Under Options select Single and Autolight. The Single option allows you to render a single frame in the animation sequence, and the Autolight option is equivalent to setting autoexposure on a camera. The Autolight option stops you getting burn out, as Real 3D automatically adjusts the intensity of the lights.

On the right-hand side of the screen make sure that the Frame is set to 0, because we want to render the first frame in the sequence.

Also make sure that Baselight is set to Red 0, Green 0 and Blue 0. Click on Background and then set Red 0, Green 6 and Blue 15. This gives us a nice blue background. Finally, check that the width is set to 320 and the height to 256.

With all this set up you can now click on Render to set Real 3D on its way. This frame should only take about half an hour to render!

There we have it – that's how easy Real 3D is to use. We have not covered everything, but the key to success with this program is to experiment. Let your imagination run free...



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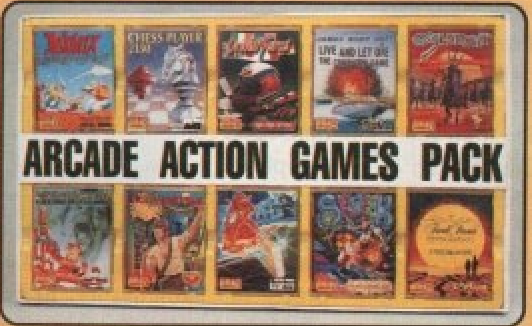


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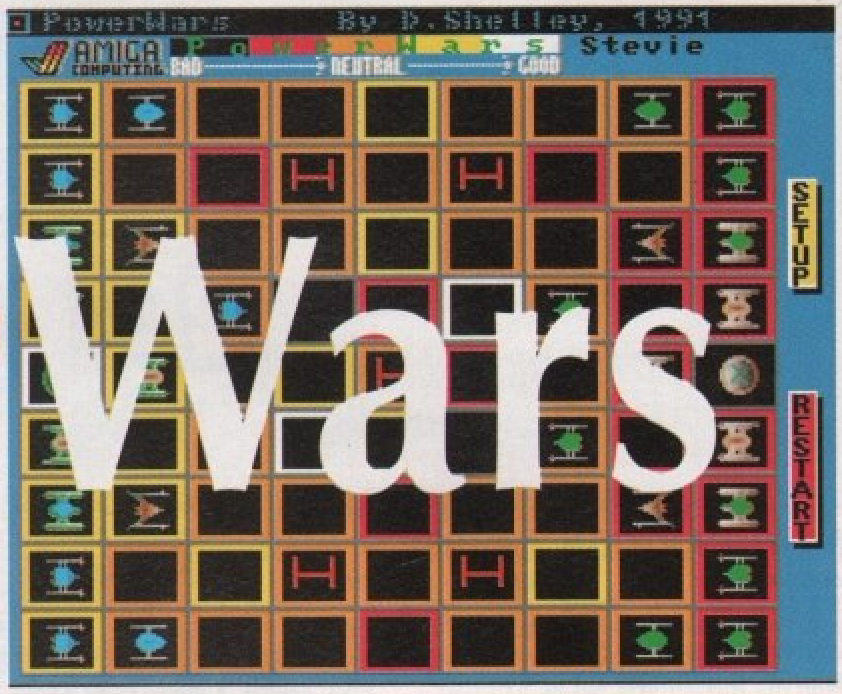
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Power Wars



THE

If chess, Star Wars, and Othello in the same game sounds like an explosive mixture, you're dead right. Our game-of-the-month combines them all in a strategy game guaranteed to keep you tied to your mouse and gritting your teeth for a very long time.

PowerWars is played on a surface similar to the standard chess board in that it is divided into squares and moves are made over it in horizontal and vertical jumps. The pieces themselves are spaceships ranging from Fighters to the Powersource, which acts as the King. The similarity, however, ends there. There's a lot more to this game than meets the eye!

Each square has a coloured border which affects its usefulness to either side. If you are player one, the white and yellow squares add bonuses to your ships' attack and defence ratings, while the red and black squares aid player two. The orange squares are neutral.

It follows that one of the most important aspects of gameplay is to manoeuvre into a tactically superior position, as even a weak ship will be able to withstand attacks from strong enemy ships if on a +2 square.

The board doesn't have to stay as originally generated. Each player has Repair Ships which, when moved onto a square, change its colour one step in favour of the player concerned. For example, if player one's repair ship moved onto a neutral orange square it would change to yellow, thus offering his ships a +1 bonus.

Cat and mouse

With the clever use of Repair Ships and some astute tactical play, PowerWars can rapidly develop into a game of cat and mouse as one player attempts to lure another into a position from which to attack – with the odds stacked in their favour. When this happens, you know you're hooked!

The ships come in six flavours, each with its own unique strengths and weaknesses. When you pass the cursor over a ship, its type and ratings flash into a space above the board in the top right-hand corner of the screen, giving the player the chance to check their chances before engaging in combat.

The three ratings, in order, are force, shield, and movement, each of which is pretty self-explanatory. In combat, which is initiated by moving one of your ships into an enemy-occupied square, the aggressor's attack rating is measured against the defender's shield, then any bonuses gained from the colour of the square are taken into account.

A comparison of the two is made, and if one is better than the other, the ship with the lower ratings is destroyed. If the result is a draw, either both ships are destroyed, or both are left where they started.

Sacrifice to win

You might think that a player one Powersource on a white square would be invincible, as it has the best possible bonuses, but there is a cunning trick which will dislodge an entrenched enemy.

If you attack another ship and lose, the defending ship moves onto the square from which the attack was mounted. This means that if player two has a fighter in a black square, he or she can attack an enemy Powersource, deliberately sacrifice the Fighter, and draw the enemy piece onto the black square – at which point it becomes vulnerable to an attack from, say, an Elite Fighter.

Promotion

In a similar manner to the promotion of pawns in chess, a player can promote his or her ships by reaching the other side of the board. Fighters will thus

The friendly coverdisk

In an attempt to make the coverdisk as friendly as possible, we have, over the past six months or so, been making a few changes. You may have noticed, for instance, that all programs now come with full documentation on disk so that you needn't have the magazine handy before you can use them.

In an attempt to make the disk slightly more visually appealing we have redesigned the icons to make them bigger, brighter, and more instantly recognisable, and have stuck to the Workbench interface because we consider it the one most familiar to the average user.

As an experiment we toyed with the idea of commissioning a custom menu-driven front end for the coverdisk, or of using one of the many PD menu systems available, but we constantly returned to the Workbench environment because it is the simplest and most universally recognised user interface on the Amiga.

When we put the Workstation disk together, however, we decided to use the aged but reliable MyMenu program to provide extra pull-down menus, giving direct access to the disk's many programs without the need to open a large number of windows. The success of the system has now led to its adoption on the coverdisk. We hope our coverdisk users will be happy with the new system and appreciate our decision to settle for something which extends the already familiar Workbench menus rather than impose a tacky, flashy custom menu system with which few of our readers are familiar and which may not be as easy to use.

Please write with your views on the matter. It is, after all, *your* disk.

How MyMenu works

To use the additional menus simply click in the main screen area to make sure it is activated then hold down the right mouse button as you would when accessing any normal Workbench menu. The extra menus – namely Games, Utilities, and Docs – should now be visible and you should be able to select the program of your choice by highlighting it and releasing the mouse button.

If at any time the menus do not appear, click in the CLI window left open at the base of the screen and type:

```
MYMENU <RETURN>
```

to refresh the menus.

The Disk that no drive can afford to be without – because it's free! TWO FULL GAMES, ONE TUNE, and four great utilities!



become Elite Fighters, and Guards will become Repair Ships.

The latter is especially useful if your lightly defended Repair Ships have been wiped out. It's very difficult to win a game of PowerWars if you have no Repair Ships, so a clever player will guard the originals and seek to promote new ones as soon as possible.

PowerWars can be played using the default setup which appears whenever the game is loaded, but you can configure the game to your heart's content using the Setup option. Click on the Setup icon to the right of the playing surface, or press the 'S' key to start.

Setup basically consists of the player selecting a colour from those available to the right of the board, and clicking on the square he'd like to assume that value. Ships are chosen by scrolling through the list at the top right-hand corner of the screen and then on the square you want them to start in.

Please note how easy it is to set up a confrontation between two hopelessly mismatched forces. The Setup option is not provided for the sake of the cheaters among us, but for the player to choose the specific mix of forces he or she feels will best accomplish the tactical aims of the game.

To this end, refer to the points values of the ships and agree on a total points limit for each player's fleet. Once both players have chosen their ships, the ➤

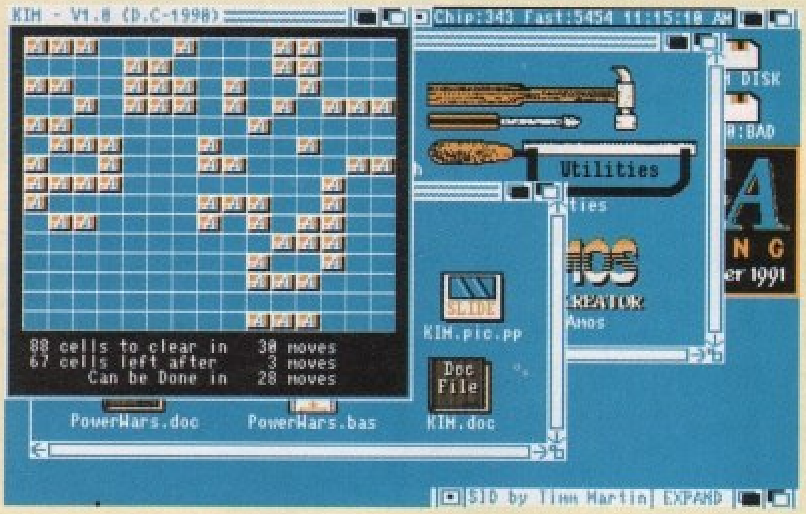


KIM

Author: Dean Cracknell

Kim is one of those tile board-games that look deceptively simple when you first load them in and rapidly become bafflingly difficult to win.

It's played on a board 15 by 15 squares in size, upon which the computer places a number of tiles. The simple object of the game is to remove all the tiles in a set number of moves – and this, needless to say, is not as easy as it looks.



Now you see it...

To remove a set of tiles, click on the tile in the middle of a set of nine. Any that are present in the set are removed, and blank squares are filled with tiles.

To complete a game in anything like the correct number of moves, it is necessary to think a few moves ahead, sometimes adding tiles in order to later remove them and their neighbours.

Game options include a cheat function which will either suggest a move or finish the entire game for you, and there are six difficulty levels to choose from. Most players should find a level at which they can progress if they fiddle around enough.

How to use The Disk

First of all, you must make a back-up copy of the coverdisk. To do this, boot up with your copy of Workbench, then double click on the Workbench disk icon, followed by the Shell or CLI icon. Now type:

DISKCOPY FROM DF0: TO DF0:

or, if you have an extra disk drive, put a blank, formatted disk in DF1: and type:

DISKCOPY FROM DF0: TO DF1:

Follow the onscreen prompts until the copying procedure has ended, then put your original disk away in a safe place. Now switch off the machine and wait for 30 seconds before re-booting with the copy. Wait until the CoverDisk17 icon appears, double click on it and away you go.

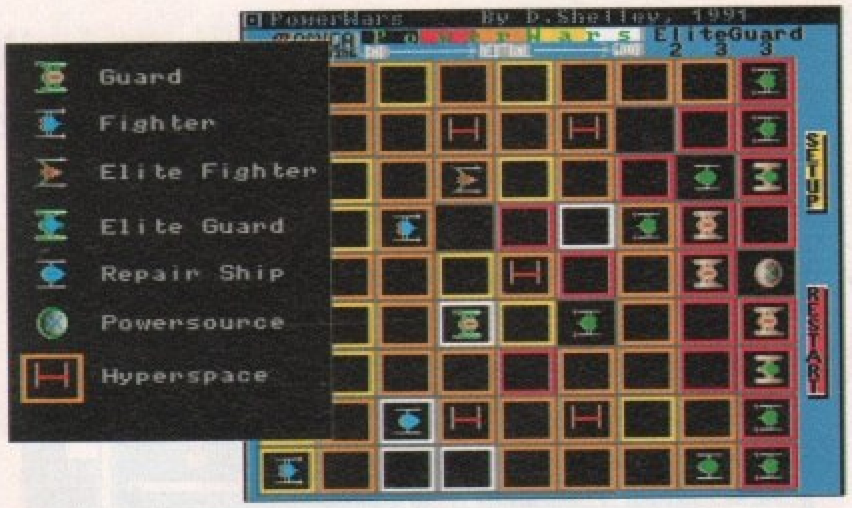
That's all you need do to make a straight copy of the entire disk. However, you may also want to to copy individual programs from your copy of the coverdisk to a separate disk. In this case ensure that you fully understand which related files need to go with it.

For example, all of the document files on the disk require that the text editor PPmore is in the current disk's C: directory. Therefore, if you copy the docs to a new disk you will also have to copy PPmore to the new C: directory before you can read them.

Some of the smaller docs will not have been crunched, so for these you need only change the tool types on the icon's info screen to reflect whichever text editor you do have on the new disk.

As a general rule, you should carefully read the documentation for any program you copy from disk to disk.

This can save a great deal of messing about and can help you avoid all those infuriating error messages!



game can begin. Again, don't go crazy when selecting the colour of the squares on the board. No colour should take up more than about a quarter of the total board area or things will become imbalanced. Hyperspace squares should also be used sparingly as you don't want your ships leaping randomly around the board at every move!

Following is a list of the different attack and defence bonuses gained by moving on the various coloured squares.

White +2 Player1
Yellow +1 Player1

Orange NEUTRAL

Red +1 Player2
Black +2 Player2

The ships

Below left is a table listing the different types of ships available in the game and their ratings for attack defence and movement. There is also a points value attached to each ship which may be used when calculating the outcome of a fight or when you want to use the Setup option to customise the way the game starts.

Using the points values, two players can start with a set number of points available to their forces, then choose the mix of ships he or she feels most comfortable with. If you play PowerWars from a defensive stance, therefore, you would choose more elite guards than Fighters, and so on.

NB: You should never have more than one Powersource.

	Force (attack)	Shield	Movement	Value
Repair Ship	1	1	1	4
Fighter	2	1	2	1
Guard	1	2	2	2
Elite Fighter	3	2	3	5
Elite Guard	2	3	3	3
Powersource				
– with shield	4	3	1	6
– without	5	1	2	7

If the volume of letters we receive from readers having a fight to the death with their printer is anything to go by, Jorgen's program will find a warmly appreciative audience. The only problem is that the same audience might quickly become as baffled by the program as they were by the original printer problem.

Printer Driver Generator (PrtDrvGen) is designed to allow the average user to create his or her own printer driver from scratch or to modify one of the existing drivers. As coverdisk utilities go, therefore, the program is not one of the simplest you'll ever come across. As it is designed to do a job you'd otherwise have to resort to machine code to complete, this shouldn't be too much of a problem.

Fine control

PrtDrvGen treats every printer driver as an Ascii file containing a series of data elements which make up the printer driver's profile.

To create your own printer driver,

DateDiary

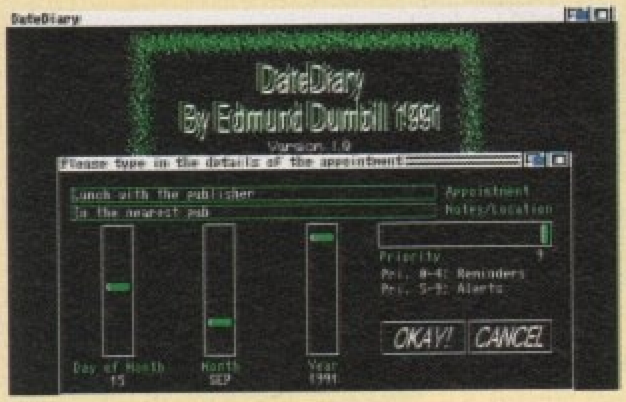
Author: Edmund Dumbill

DateDiary is one of the utilities they *should* have included in Workbench but didn't. It is designed to keep track of your appointments and warn you when one comes up. The utility is split into two parts.

DiaryCheck

DiaryCheck is the routine which checks for your appointments. When it is run, it checks your system clock for today's date – if you don't have a battery backed-up clock you'll have to set the clock before running the program. The program then compares this with a set of appointments held on disk in a special file.

Called appointments.dd, the file must be located in a device called DD:, so it is essential that you use an ASSIGN



statement to set this up as the directory in which the appointments file is held. There's no need to do this with the coverdisk, which has a line in its startup sequence to do just that, but if you intend to transfer DateDiary and DiaryCheck to your system disk you will have to bear it in mind.

DiaryCheck, if run from your startup sequence, will alert you to any appointments when you boot up at the start of the day, and will do so in different ways depending on the urgency of the appointment. If an appointment is very urgent, you will be greeted with a guru-like red and black alert, guaranteed to make you sit up and take notice.

DateDiary

The main program is where the user adds appointments, edits existing dates, or kills those no longer needed. Inputting an appointment is very easy and should pose no problem for the average user.

Simply enter the type of appointment, for example, an editorial meeting, its location (the pub), then set the time (lunch) using the slide controllers for day, month, and year, and hit OK to save the appointment to disk. You can make an appointment for any date up to New Year's Eve 2020, so there's no excuse for not planning ahead!

Explaining priorities

Below you will find a guide to the sort of alerts you can expect if an appointment is pending. It is clear from the table, for instance, that a priority nine appointment – the most urgent – will generate an alert as soon as the current date enters the same month as the appointment, and it will continue to alert the user as long as its priority is set this high. If you get sick of seeing the alert every time you boot up, you can always downgrade the priority number to 4 or below.

Remember that DateDiary can only track up to 16 appointments in memory at any one time, so if you're a busy person you'll have to go easy on the long-term appointments.

Warning period	Request priority	Alert priority
On day of appointment	0	5
On week of appointment	1	6
During fortnight of appointment	2	7
Within 3 weeks of appointment	3	8
During month of appointment	4	9

Printing? No problem!

We guarantee that from this month onwards, *every* doc file on the coverdisk will output to the printer directly from the coverdisk as long as you boot from the disk itself.

Using MuchMore_PP as distributed on the July disk, you can now press the following key combination to activate the printer:

SHIFT + ALT + 0

Please note that the preferences set on the coverdisk will be for a printer in the parallel port using the generic printer driver.

If you have a printer in the serial port or would like to use a custom driver you will either have to copy your own system-configuration file into the disk's DEVS: directory, or alter the preferences directly using the prefs program on your Workbench disk. There isn't enough space on the disk to include the preferences program, but as it is a standard feature on every copy of Workbench and supplied with every Amiga sold, it should present no problem.

PrtDrvGen

Author: Jorgen Thomsen

click in the text window and type in the name of the driver you'd like to modify, then click on the "B" button to start the decoding procedure. For our purposes, type in the name '"generic" as this driver is present in the coverdisk's DEVS:printers/directory.

Once decoding is complete, the display will change to a strip containing the number of the data field currently being accessed along with a description of what this field does for the driver concerned.

As an example, we'll assume that instead of the standard paper size, you'd like to print on a page 11.5in long and 9.5in wide. To modify the driver you will have to click on the NEXT button until field 28 is showing, so click in the box holding the number, type in 28 and press Return.

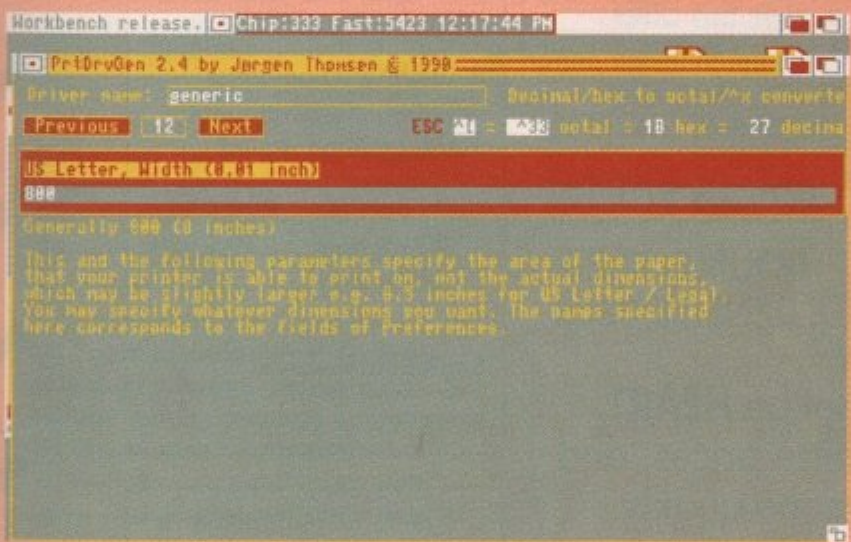
Field 28 is the one holding the width for your custom paper setting, and as you want to set it for 9.5in, and the value is expressed in hundredths of an inch, it should be set to 950.

Click on NEXT once more to bring up the custom paper length setting, and type in 1150 to set 11.5in print area.

If all you want to do is reset the print area, you can save the new driver right now and you will have created your very own custom printer driver.

If you have a printer for which no specific driver exists, however, and you'd like to modify a driver designed for a more-or-less similar printer, PrtDrvGen really begins to show its usefulness. The list of factors you can alter with this program is almost endless.

By using PrtDrvGen you should have almost total control over the sort of printer driver you use, and as long as your wordprocessor is set up correctly and your printer manual contains enough details about the printer's character sets, printing characteristics and so on, you should have few, if any, problems with your hard copy.



Faulty Disk?

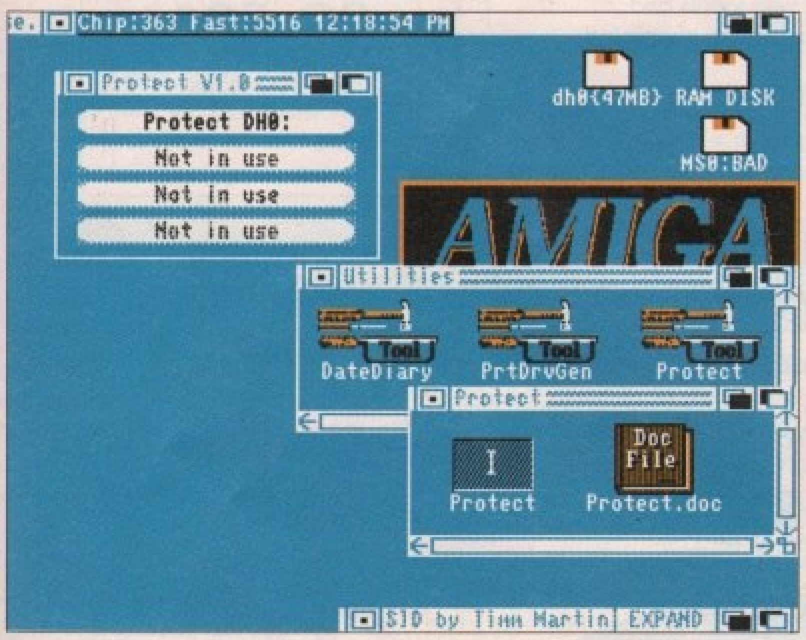
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Please allow 28 days for the delivery of your replacement disk.

Protect

Author: Nicholas Dyson



This program is only of interest to hard drive owners because it is just a shortcut for those wanting to make use of Workbench 1.3's Lock command for FFS partitions. Rather than open up a CLI, type in the Lock command complete with parameters, and all the rest of the gubbins, Protect allows you to click on a partition's name to Lock it and protect its files from accidental deletion.

As long as it's run from Workbench by clicking on its icon, Protect can cater for strange and unusual partition names through the use of its tool types. Using the Workbench info facility, pull up an info screen on the icon, and if your DH1: is called FRED:, simply add the tool type 1=FRED.

Once a drive or partition is protected, the program's gadget strip will change so that it reads "Uprotect Fred:" and you can then reverse the protection at a click. Hardly a revolutionary concept in hard drive tools but one which will hopefully encourage hard drive users to make use of a Workbench command that could eventually save them a great deal of anguish and woe.

Think you can do better? Want to be famous?

We are always on the lookout for new, quality Amiga programs for the coverdisk. If you think you have written something good enough for others to share and enjoy, please send it in and we'll have a look.

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Please make sure you list ALL Workbench and other files necessary for the program to work. Feel free to design your own icons for progs which run from Workbench, but please don't make them too big.

If you ensure your program is as compatible as possible with a wide range of Amigas, it will also stand a better chance of publication. We are especially interested in programs designed to work with the A3000, although if they work only with the new machine they'll have to be quite small.

We are prepared to pay our current rates for original work which hasn't been distributed in any other way and which has not been put in the public domain.

If you wish your program to be released as shareware or freeware we will be happy to publish it, but would, of course, be happier if we'd been given it first!

Your submission MUST be accompanied by the submissions form, a copy of it, or a signed declaration to the same effect. Please supply your full name address and phone number.

Unfortunately we cannot undertake to return disks sent to us as the volume of submissions makes this an impractical exercise.

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Address ....

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Daytime phone .... Evening phone ....

Submission name .... Submission size ....

You must sign this declaration

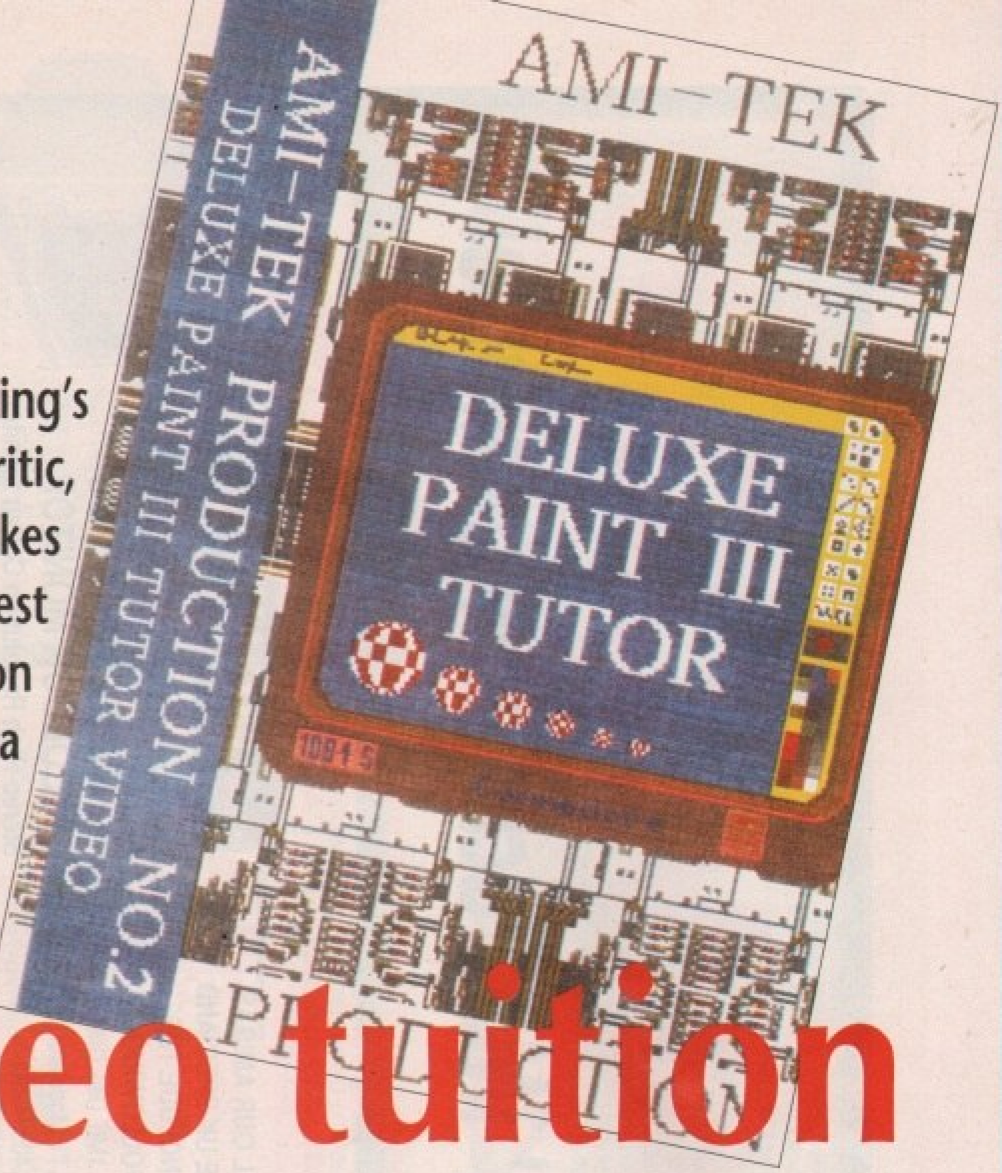
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Video tuition for Dpaint III fans

Amiga Computing's very own critic, Paul Austin, takes a look at the latest artistic add-on for the Amiga

Regular readers of the ultimate Amiga magazine may already be familiar with the work of E W Swann of Stamford, as his previous release, namely the ***Amiga Tutorial Video***, has already had a mention in the February issue.

This initial offering provided a guide to Workbench and to those general mysteries of the machine which every beginner encounters and must master before exploring the machine.

No doubt thanks to the success of this previous release, good old E W has followed it up with 2.45 minutes' worth of Deluxe Paint III.

This latest release follows roughly the same format as the first. The various elements are divided into numerous sub sections, each of which is detailed on the back of the cassette box with a brief description and a reference number for tape position.

The video opens with a fairly impressive Dpaint animation which displays many of the program's greatest talents. After the intro the seemingly compulsory disembodied voice explains that this particular sequence will be well within your grasp by the end of the video. To prove it, the final lesson explains how to create your own customised version complete with a spinning globe and stylish text which rises effortlessly above its own shimmering watery reflection.

What's on offer

At first I was a little sceptical about the video's chances of taking a complete beginner to such artistic heights in a single lesson but I must admit to being wrong. All the necessary tuition is there, if perhaps rather briefly on occasion. Nevertheless, with an odd rewind even the most complex areas of the program come across quite well.

Section one and two, as you might expect, deal largely with the available tools and their controls. This includes a detailed tour of some of the more curious requesters which appear thanks to the right mouse button.

As well as the essentials there's a brief guide on how to get the best from some of the more specialised tools such as symmetry, gridding and spacing.

Sections three and four deal with text and font selection for both the normal and coloured varieties. In addition, there's an excellent section which explains the intricacies of stencils and the superimposing of patterns.

Five and six are where the serious lessons really start – with a detailed description of perspective. This is perhaps the favourite stumbling block for many Dpaint fans, but thanks to the tutorial and the first of three practical demonstrations all becomes clear, again with the odd rewind.

Section six is devoted solely to animation and describes all the necessary skills from the simplest colour cycling right through to the complexities of the move requester. This section is perhaps the most useful and impressive part of the video and does an excellent job of explaining in simple terms what can be by far the most confusing part of the program.

Again, practical examples are employed to illustrate the tricky bits and after a few minutes you'll be happily painting away with anim brushes while skipping automatically through the pages. As mentioned earlier the final lesson describes how to create the intro animation but there's also the added bonus of a guide to animated logo design.

> *I was a little sceptical about the chances of taking a complete beginner to such artistic heights but I must admit to being wrong*

OK, everyone's got a manual, or at least should have, so why bother with a video? The simple answer is, that 10 minutes of hands-on experience, even if the hands don't happen to be yours, can usually relay a lot more than the sometimes arduous task of ploughing through a manual. Anyway, considering that most of us are couch potatoes in the making, the prospect of being spoon fed rather than having to do the hard work ourselves is quite appealing.

Piracy problems

An obvious point is raised by the previous paragraph and that's the question of piracy. Dpaint III is only one of many highly technical programs devised for the Amiga and as a result videos such as this could soon spring up for countless high price, high power applications.

If that's to be the case, are the authors of such material effectively condoning piracy? Up to 90 per cent of power applications rely on their complexity and associated manuals for their only real copy protection. Will the video boom mean a drastic decrease in revenue for the developers and a subsequent decline for the Amiga as a serious machine? We shall see...

The package is a commercial offering aimed squarely at the artistic side of Amiga market and yet the quality of the video itself leaves a lot to be desired. Although the content is very difficult to fault, the flickering picture combined with the slightly amateur voice-over, complete with rustling paper and assorted squeaks and bumps, does take the edge off the presentation.

And finally

Apart from the dubious quality it's hard to find any real fault, and as far as content goes it's quite impressive. There are a few points which are a little lost in the rush but nevertheless, all the essentials are there and even an old dog like me learned a few new tricks.

Deluxe Paint III Tutor
is available from
Audition Computer Services
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Stamford, Lincs PE92PQ
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PAGE 1

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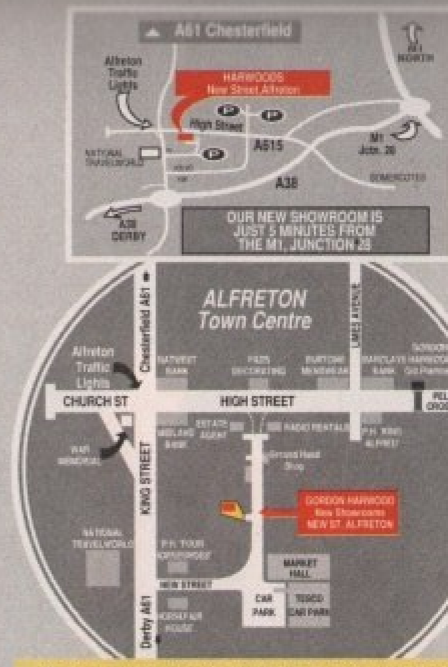
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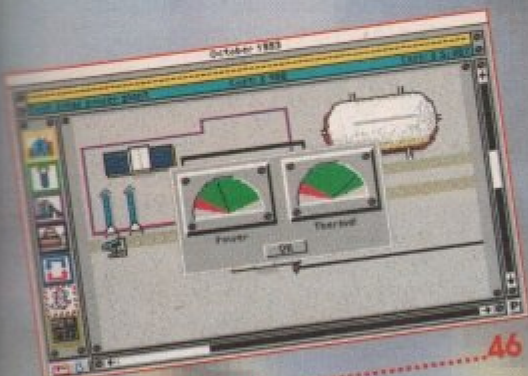
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GAME ZONE

















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2	Full Contact	Team 17	£9.99	12	Defender of the Crown	Mirror Image	£9.99
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9	Fantasy World Dizzy	Code Masters	£6.99	19	Armour-Geddon	Psygnosis	£25.99
10	North and South	Digital Integration	£7.99	20	Switch Blade 2	Gremlin Graphics	£25.99

This chart is compiled by Gallup Ltd

tip SHOP Activate cheat mode by hitting Page 65

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Hard Drives For The A500 & A2000

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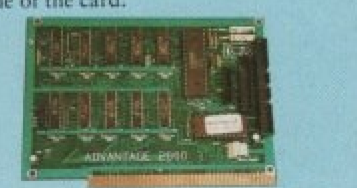
Faster Than any other Competitor "Amiga Computing"

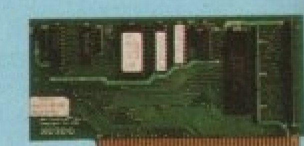
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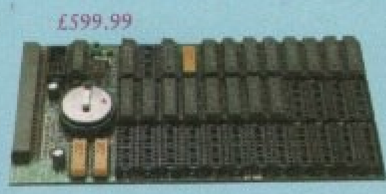
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External Floppy £59.99

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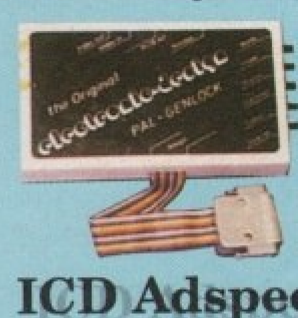
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CP10 Pal Encoder



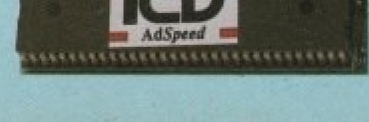
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- 14MHz replacement processor
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- On-board RAM cache
- No soldering required

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PREVIEWS

Be the first to find out what's hot in the Amiga games scene, from a man who knows: Jason Holborn

LOTUS TURBO CHALLENGE II – *Gremlin*

Following the phenomenal success of their Lotus Turbo Esprit Challenge game, the lads at Gremlin have announced the development of a follow-up in the shape of Lotus Turbo Challenge II.

As you can probably guess from the name change, you're no longer restricted to the mighty Esprit Turbo. You can now also drive Lotus' award-winning concept car, the Elan. This rather squat little beast may look strange, but it can sure pack a punch. Its Japanese-designed turbo engine allows it to zip along at a breathtaking rate.

If you have an Amiga-owning friend who also has the game, your two Amigas can be connected together via a null modem cable to allow head-to-head racing without having to squeeze yourselves around a single machine.

Expect to see it later this year.



ZONE WARRIOR *Electronic Arts*

When the Geeks took over the Big-Q they didn't just capture the greatest space station built by man, they happened upon the secret of time travel.

Within a matter of months a devious plan was devised to wreak havoc on mankind.

The evil Geeks sought to infiltrate five time zones through the history of the world – choosing those in which disruption was most likely to bring mankind to its knees.

You are the last hope of the human race, a genetically engineered super-human armed to the teeth with an awesome array of weaponry.

You must travel through each time zone, kicking the Geeks butts whenever they appear.

Your mission was scheduled to start in late July, look out for Electronic Arts' latest and greatest slash-'em-up.

CHAMPIONSHIP ATHLETICS – *Hawk*

Anyone remember the track and field-like games that were so popular on the 8-bits? You remember the ones – joystick manufacturers loved them because they reduced the life expectancy of the average joystick to a matter of days because of the amount of frantic waggling that was required to play them.

Well, Hawk think that Amiga owners too will want to get in on the act with their latest release, Championship Athletics.

With 16 events to choose from, ranging from sprinting, hurdles and relay, to 800, 1500 and the gruelling 5000 metres distance running, Championship Athletics looks set to cause the death of many joysticks. Look out for it.



ELVIRA II – *Accolade*

Elvira is in trouble again. During a visit to Black Widow Studios, Elvira is captured by the evil 60-foot tall, three-headed demon Cerberus and locked away in one of the Studio's three sets.You must journey through the each of the sets – an old Victorian house, a maze of catacombs housing an enormous spider's web, and a very large, fog enshrouded graveyard –

LEMMINGS, THE ARCADE GAME – *Psygnosis/Data-East*

Soon you'll be able to play Psygnosis' massive hit Lemmings in your downtown video arcade thanks to a deal signed between the Liverpool-based company and leading arcade producer Data-East.

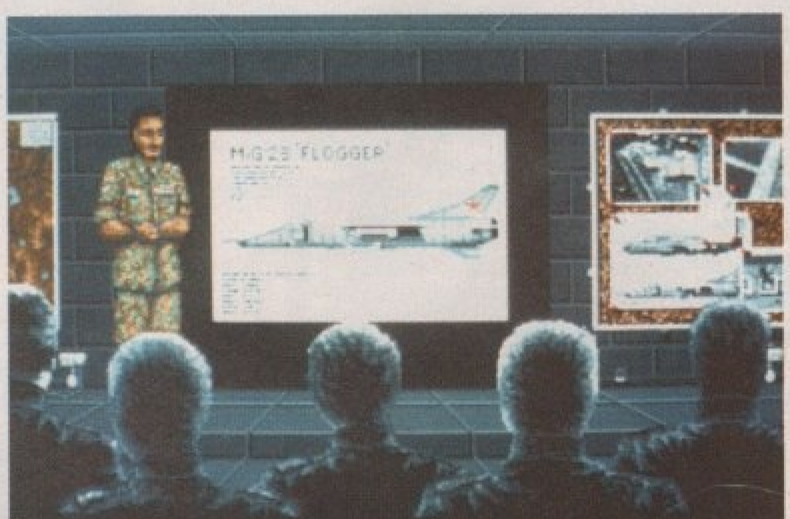
Data-East are hard at work on the coin-op as we speak and they hope to have it eating large numbers of 10-pence coins early next year. Proving just how good the original was, Data-East claim the game will be almost identical to the home computer versions, the only difference being that control will be via a Marble Madness-like trackerball.

Staying with Lemmings, Dave Jones and the crew at DMA Design are still slaving away at both Lemmings 2 and the promised Lemmings level editor. No release dates as yet, but Dave has his sights set on a Christmas launch.



FINAL FIGHT – *US Gold*

Fans of the arcade smash Final Fight will be pleased to learn that the Amiga conversion is looking very nice thank you. All the fast-paced action of the arcade original has been maintained, making Final Fight the game to watch over the next couple of weeks. Look out for a review very soon.



FALCON CD-TV – *MirrorSoft*

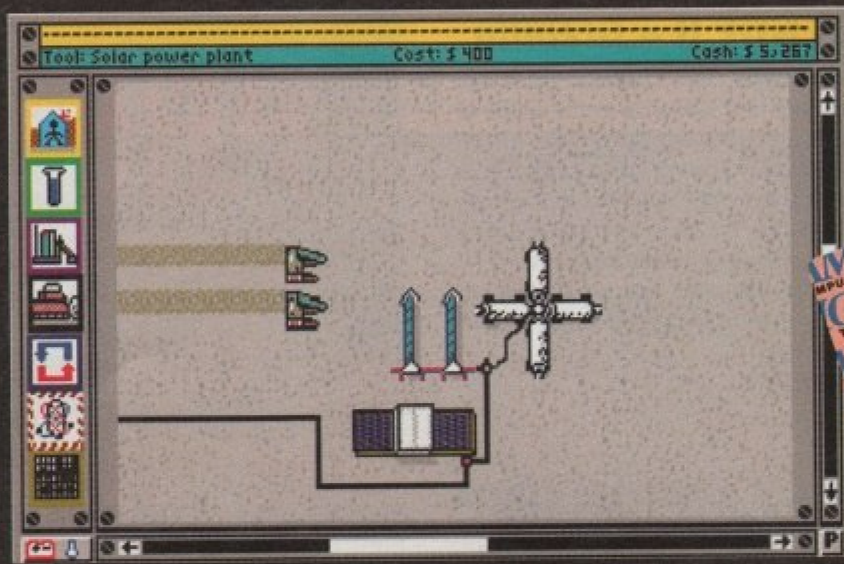
MirrorSoft's Falcon is indisputably the most famous flight simulation program ever created for a home computer. The good news is that it's now available for Commodore's latest baby, the CDTV, so you can fly into combat from the comfort of your own living room.

MirrorSoft claim that the technical capabilities of the CDTV mean that it has been possible to enhance the CD-based Falcon beyond recognition. CDTV Falcon is now possibly the most realistic flight sim available this side of a British Airways Novoview SP-X 500HT simulator – but that little baby will cost you a cool £60 million!

O K, hands up all those who have played Sim City and thought, yeah very nice but I want something a bit more hi-tech. Well now, courtesy of Mindscape, you have something totally new, and different enough to warrant you buying it even if you own Sim City.

Moonbase, predictably, is set in the harsh environment of the moon. Nasa have decided that the Earth is too crowded to support itself any more. The human race needs to branch out if it is to survive and the moon is the ideal place to do it.

It's not very far away – in space terms it's on our doorstep – and with a little work it could be a nice place to live, even a good place to go on holiday. But before all this, some serious work needs to be done to make it hospitable.



Alright! A drag race on the moon as these two mining vehicles race towards the free Coke shop



Space 1999 was never like this

MOONBASE

Distributor: **Mindscape** Price: **£35.99**

First up you will need to do the property development bit and put up some buildings. Bear in mind that humans need minor things like air, food, water, heat and power to survive up there. All these must be provided as they haven't yet made an extension power cable long enough to reach from Earth to the moon.

All this isn't cheap and it's your job as station commander to balance the budget, and even try to turn a tidy profit before Nasa decide to cut your subsidy. You have 10 years in which to turn the moon from a hunk of rock into a self-sufficient business.

Once you have started to suss things out up there you can begin to encourage people to go on holiday there. If your factories make any excess of goods you can always sell them back to Earth to make some money to help balance the books.

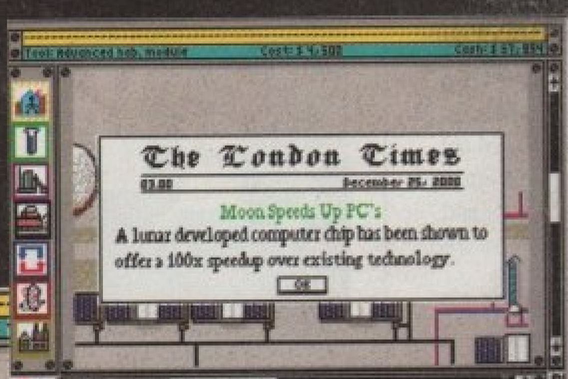
There are three basic things to keep in mind when playing Moonbase: crew, power and thermal control. Most of the structures in the base will need these, and if it is not working properly then this is where it is going wrong.

If the Nasa subsidy proves to be a little too tight – very likely – you will have to use your bonce to play the export game. You can build factories to produce LLOX or HE3, providing the market is ready to provide the right price of course. You can also send out expeditions to search locations on the Moon's surface for minerals or water. If you find any then you can save money by using this water instead of buying it from Earth.

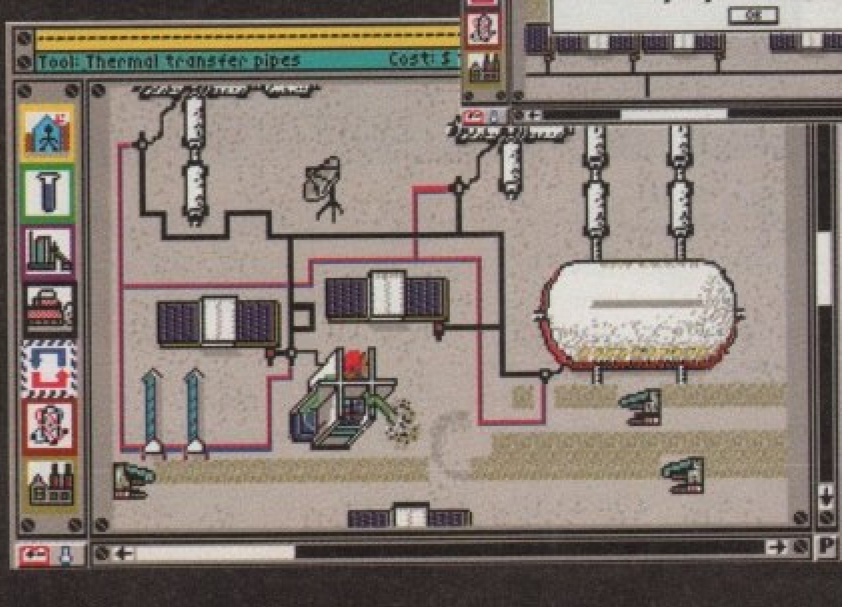
In order to make all your buildings and projects work you need, of course, enough people to crew them. These crew members need room to sleep so you have to build, power and keep warm enough crew modules for them to live in. After all, on the moon who wants to share living space with one of those nuclear reactor workers who glow in the dark and keep you awake?

Just in case all this wasn't enough to give you endless sleepless nights there are several different kinds of disaster that can happen. These can cause crew fatalities and slow work down to a near standstill, neither of which are very desirable occurrences.

The solar flare is a prime example



Amigas on the moon, progress guaranteed. Just to prove we are the best they even read British papers on the moon

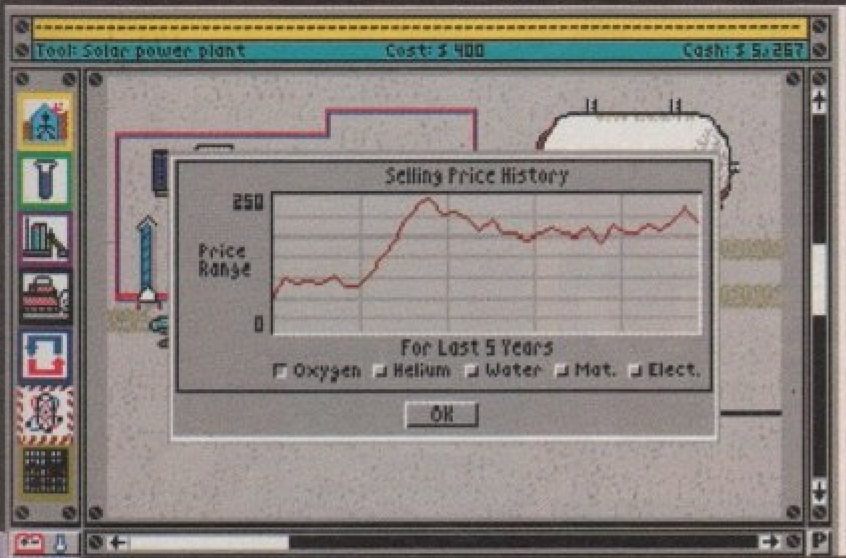


Moonbase, an ordinary story of ordinary suburban life. Well, almost

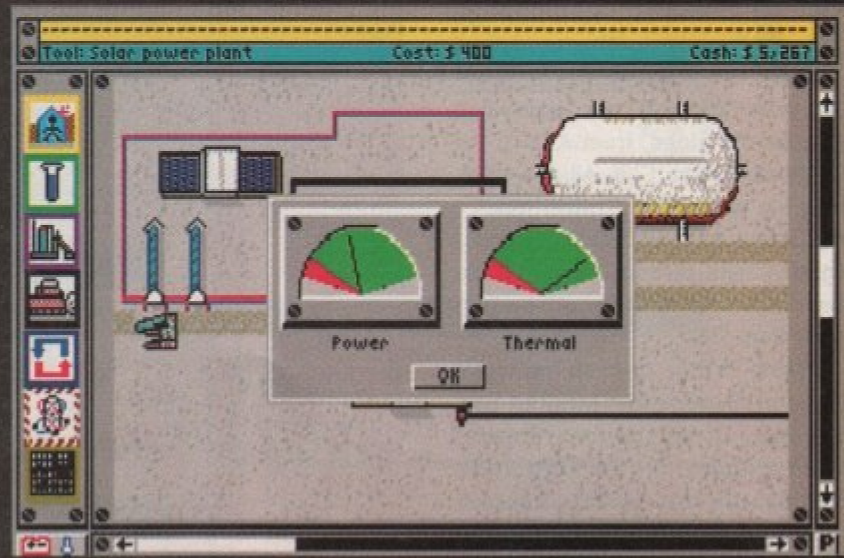


Yeah, well let them, they're only bluffing. Miners are a bunch of wimps anyway

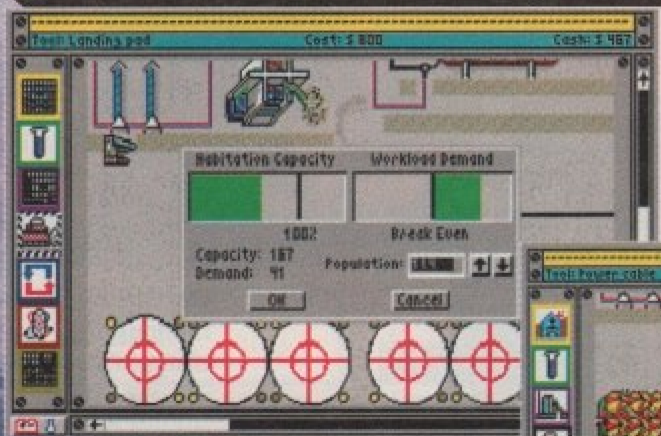
Told you so. Anyone else want to mess with the toughest moon manager around?



A bit of an entrepreneur on the quiet are we? Well it looks as though oxygen is a good thing to sell for a quick profit



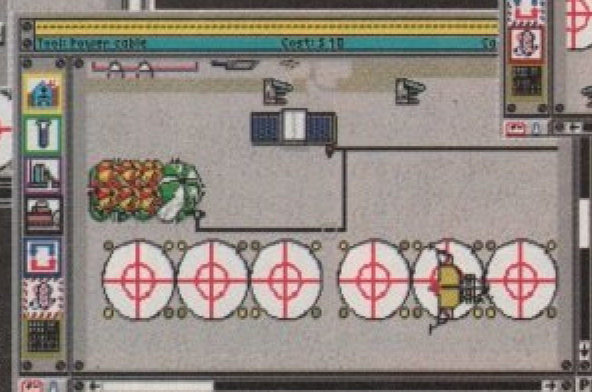
It might get cold out unless you can up those thermals. The power needs a boost as well



Celebrate the completion of those lovely new landing platforms by inviting some tourists to come to the moon on holiday



Now that looks like the same efficiency rate that we have here in the office. And about as much gets produced on time as well!



Here they come, complete with landing craft. Let's bulldoze the landing pads and make them crash, ha, ha. Bloody tourists!



Why don't you spread out a little? After all you have an entire planet's surface on which to capitalise

of such a disaster. The crew will get an eight-minute warning to take cover. Now, if you'd had the sense to build a telescope then any losses due to solar flares would be minimised.

The lunar landers that keep the moon supplied have also been known to crash if there aren't enough landing pads for them. And everyone knows that relying on nuclear fusion plants for your energy is dangerous. If you have to use them, make sure you put them in the craters around the Moon's surface for extra safety.

The control method in Moonbase is very easy. Just use the mouse to point, click and use the menus and selectors. Anyone who has played Sim City will get into this method straight away as it is practically identical to the one used in that classic game.

For me, Moonbase kicks Sim City and all its extra disks into touch once and for all. It has been a long time coming (just like Life and Death) but is definitely worth the wait.

A lot of thought has obviously gone into Moonbase to make it so damn playable. Hard drive owners will be glad to hear that it is fully installable so this will lessen the wait for the game to load – not that it takes very long anyway.

There are so many different elements to running a successful moon colony that there isn't enough space to go into them all. Let's just say that Sim City experts will do alright up to a point but there is a lot more to it than that.

The manual was a pleasant change. There is no way that you can just make a quick start to the game. The manual is a very entertaining read (I read it in bed).

The first section is a little story that gives you loads of clues about how to play the game successfully and will even provide some essential advice. The rest of it is a comprehensive guide to all aspects of the controls and what everything does. However after this you are on your own to try and make it work out on the Moon's surface.

I cannot urge you strongly enough to buy this game. It's ace.

Trevor Ablott

Sound

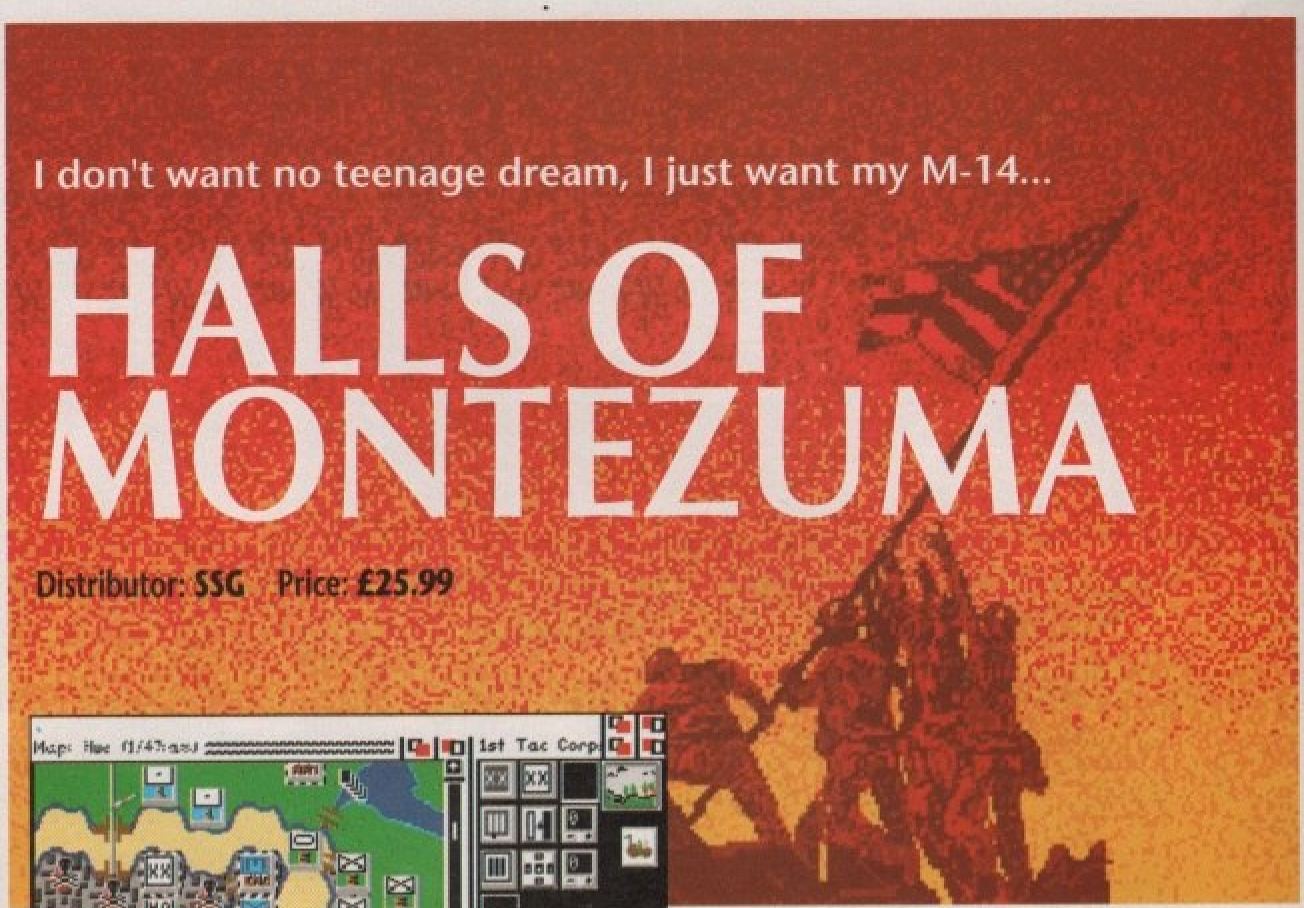
There is a very haunting title tune to introduce the game. There is no in-game music but there are loads of sound effects throughout the game. There is even some excellent speech in there. All this adds to the amazing atmosphere created by a great game.

Gameplay

What can I say? More playable than Sim City. This is one of the most addictive games I have ever played. There is just so much to it. Depth of gameplay is second to none. One of the best releases of the year along with Eye of the Beholder. A classic.

Graphics

Obviously on a game like this you wouldn't expect the graphics to be of arcade standard. But that's not to say the graphics on Moonbase are naff. In fact, all the buildings on the surface are very detailed and the little animations work well.



I don't want no teenage dream, I just want my M-14...

HALLS OF MONTEZUMA

Distributor: SSG Price: £25.99

US Marines are a tough bunch. In the service of America's interests for nearly 200 years they have been kicking butt all over the globe, from Asia to the Caribbean to the Gulf. All this scrapping has earned the "Leathernecks" a reputation for grim efficiency and a fighting spirit second to none. It has also inspired a rather good strategy game from SSG.

Taking its title from an important battle in the American-Mexican War, The Halls Of Montezuma recreates seven episodes from the Corp's past. Starting with that conflict, it encompasses campaigns in WWI, WWII, Korea and Vietnam.

You have the option of playing either the Marine commander, or, if you don't feel like fighting for mom, dad and apple pie, their adversary. A small booklet included with the game gives a potted history of each, and there is a useful colour poster with simple maps of the battlefield.

In chronological order then, the first scenario is the assault on Mexico City. You take on the role of either the fancifully named Major General Winfield Scott – the Marine's leader, or the even more fanciful Santa Anna – the Mexican head honcho.

Santa may have been his real name, but he certainly wasn't the sort to dress up in a silly white beard and give out presents to kids in department stores. No, this guy planned to give the Americans a good hiding when they came knocking at the city gates.

Entering rather late into the First World War, the Marines still played their part in it. Never was this more the case than at Belleau Woods, another scenario, where they lost a large percentage of their strength due to some cunningly placed spandaus.

Even with these heavy losses they pressed forward, taking the woods, saving Paris from the squareheads and halting the German's last desperate fling for victory. Gasp!! I guess this made up for them being a few years late!



Charlie paints the town red as the Marine Corp take a battering, but in the best tradition of American "macho" movies they'll be back

Perhaps the most memorable of all the Marine's actions were in the next World War – the storming of Iwo Jima and Okinawa. Here they faced their most vicious opponents yet, fanatical Japanese dug in so deeply they could only be dislodged with constant bombardment from Danni Minogue records – sorry, high-explosive and flame-throwers (the Marines may have been tough, but they weren't barbaric!). Can you take Turkey Knob – a Japanese stronghold – before Bernard Matthews turns it into a stud farm?

The last three scenarios deal with Pusan and Inchon in Korea and Hue in Vietnam, commie-bashing exercises beloved of the Americans. Of course, if you don't like the smell of napalm in the morning, you can always take charge of those pinko subversives and give the Yankees a taste of their own overseas diplomacy, heaven forbid!

So that's the military history lesson out of the way, what about the gameplay? Well, it's a fairly traditional hexagon-based wargame, controlled by the mouse. Icons depicting various movement options etc, can be selected and orders sent.

Unit status is called up by clicking on the unit, and this will give important information as to its combat-readiness. Use of this system is pretty straightforward and smooth and can be picked up reasonably quickly by non-strategists. If you are not sure as to what you should be doing, the objective display will help.

As well as the historically accurate scenarios, there is the opportunity to change some of the parameters of the engagements. This allows you to play out "what if..?" scenarios, and adds to the game's appeal. Some ideas are given in the manual. For instance: what if the NVA at Hue had three Shredded Wheat for breakfast?

There is also an "enhanced" setting to give either side a bit of an advantage over the other. This is particularly useful for novices like me! Great stuff.

Ady Daw



Into Korea now as the Americans try out some industrial espionage to find out how those guys make stereos so cheaply



Mexico now and the Yanks go Taco crazy. Attacking the Taco maybe? Or maybe just the Mexico City battle

Graphics

The graphics are, like most other wargames, functional rather than pretty and of a good standard. Colour is well used and depicts the scenery and features clearly.

Gameplay

Absorbing and fairly easy to get into, the game would suit those new to wargaming. The scenarios are interesting enough to hold attention, and are made better by the option of tweaking the variables like troop numbers and morale.

On the whole, one of the better wargames on the market today.

Sound

Sound too, doesn't really play a large part in the proceedings, being a collection of short bang 'n' crash samples. The patriotic flag-waving music on the loading screen though, would bring a lump to the throat of any God-fearing American.

FINAL JUDGEMENT

80%

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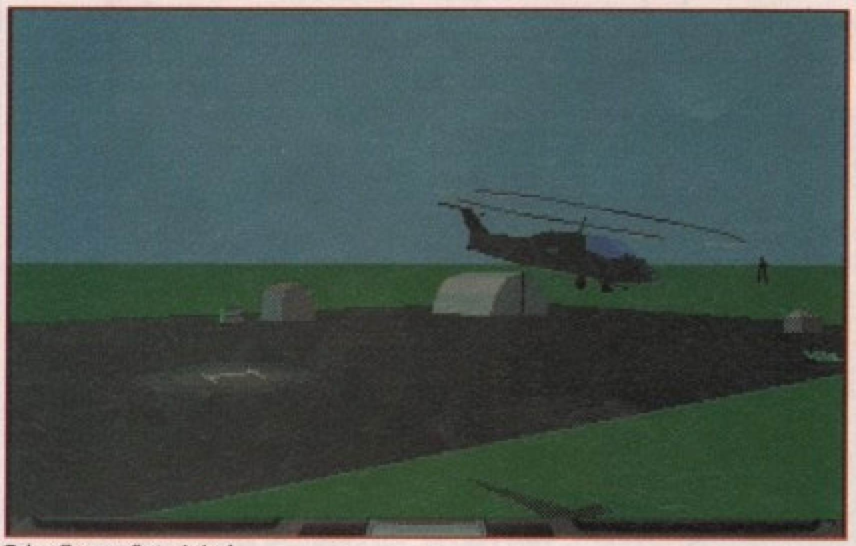
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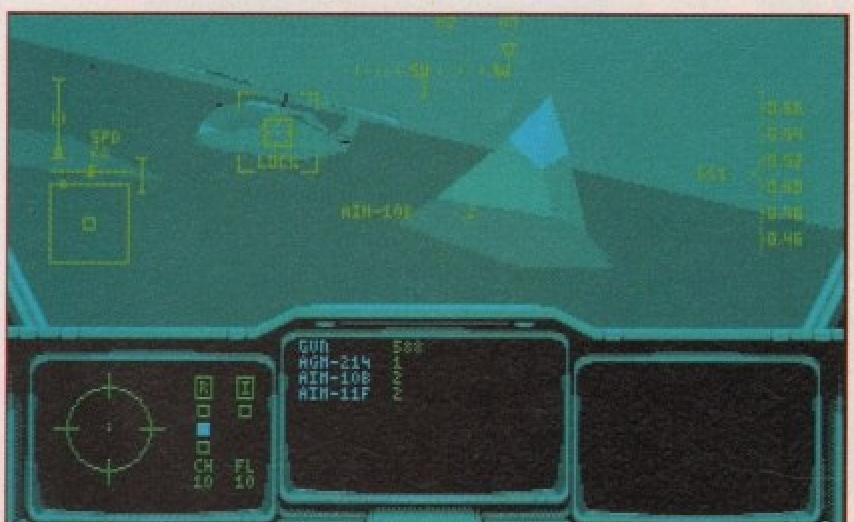
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Your only friend in a violent world, good old Jack spills the beans on the next awesome mission


Take off on my first mission!


A close call with a Soviet Mi24...


... but a missile lock oughta fix him!

AH-73M

It's been a long time coming but finally a really sensational helicopter simulation has arrived – well almost, it should be released about now. In the past, many a programmer has tried to master what is perhaps the trickiest form of flight, usually with mixed results.

In the case of Thunderhawk, Core Design have produced what many a flight sim fanatic has been waiting for: a playable, and more importantly a believable, chopper simulation. Probably the best comparison to Thunderhawk is the Electronic Arts classic Intercepter which never claimed to be the ultimate in realism but is one of the most enthralling action sims on the market.

The comparison between Thunderhawk and Intercepter is mainly inspired by their similar approach to gameplay. As a result Thunderhawk isn't for the aeronautical purists, but if you want action, excitement and a real feeling of being in the cockpit, it's breathtaking.

The key to the program's success is its excellent mouse driven controls. In the past, control of the chopper has been the element which let down some otherwise excellent programs. In Thunderhawk the three essential elements which make up the control of any whirly bird are condensed, along with other commands, to a series of simple click-and-drag combinations.

For example, the first element of chopper control is the collective, which basically refers to the angle of attack adopted by the rotors; the steeper the blade angle, the greater the lift.

Within the sim it's controlled by clicking the right button and dragging the mouse up and down. The second part of the equation is the cyclic which acts just like the joystick on a normal sim. This particular bit of mouse manoeuvring doesn't require any buttons, just a steady hand and some gentle adjustment.

The final part is the anti-torque rotor controls which on a real chopper are at your feet but in the sim are adjusted by holding down the RMB, while the mouse is pushed either left or right to spin the machine on its axis.

So, when all of the above are combined a take off would mean holding down the right button and pushing it forward to get some vertical lift. Next, a second click and a drag to the right would spin the machine a full 360 degrees so you could spot any possible bandits. Lastly, a gentle push forward dips the nose and you're on your way to the next objective.

Once on the move you can level off, double click to flick through the weapons and select your targets, all without a single keypress. If you happen to be a keyboard person the option to fly without your furless friend will be incorporated into the finished version.

OK, I know it sounds complicated but it really isn't that bad, and when the subtle controls are combined with perhaps the smoothest graphics on any sim, the effect is excellent.

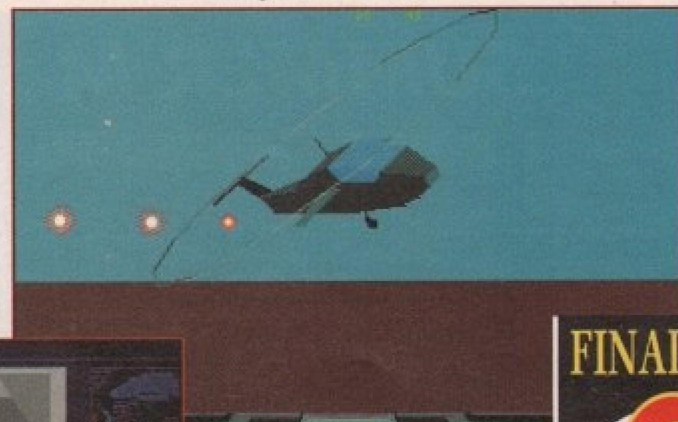
So what's it all about? Well, to say the Gulf War influence is strong would be a bit of an understatement. The Apache's part in that conflict has not gone unnoticed, although your ship is supposed to be the next generation machine.

The game revolves around six cam-


The target moves into view



The now familiar exterior view as our hero moves in for the kill



Escaping the clutches of the incoming JAMS with the aid of the odd flare



Some tough talk from the boss before the next manic mission of death and destruction

FINAL JUDGEMENT

9/10

The whirly bird awaits...

THUNDERHAWK

Distributor: Core Design   Price: £30.99

paigns each of which takes place in separate theatres of operation, such as the Middle East, Asia, Russia and so on. The campaigns consist of a series of missions and your success in each of these is important. Once a campaign is secured you receive your orders and it's off to the next war-torn part of the planet to deal out a bit more death and destruction.

The various missions and campaigns combine to make up a total of about 60 different scenarios. As you progress the tactical element grows, and to complete a campaign a little brain-power will need to be added to the awesome fire-power of your ship.

Each mission has a predefined set of objectives which can be tackled in any order, but if you're to proceed all mission objectives must be met. The usual familiar flight sim elements are used such as head up display, electronic counter measures, multi-display radar, and just about every aeronautical acronym you can think of, most of which require the odd click on the keyboard to activate or adjust. Unlike Intercepter, Thunderhawk is awash with little extras which add to the involvement and atmosphere. For example, you have your very own Stormin' Norman who, for reasons of security, is known as Jack.

At the beginning of each mission good old Jack gives you the low down on the next objective as well as a reasonable helping of some rather dated cold war rhetoric, such as: "Those dirty pinko Russkis are at it again Bub. You've gotta get up there and kick their ass".

After old Stormin', it's off to the briefing room where you get the complete picture of the next mission. This is my favourite silly bit, complete with a Star Wars style attack briefing which is piped up on the main screen and occasionally punctuated with essential bits of info from the boss.

Once all the necessary mission selections are complete there's an armament scene where you can experiment with your own flair for ordnance. After a couple more scene setting animation sequences you finally take to the skies.

As soon as you become one with your machine and its radically different controls it's time to find the enemy. Unlike most sims Thunderhawk doesn't insist on the usual 10 minute flight before you see your first opponent.

Things usually happen pretty fast. With flax and tracer flying up from the ground and enemy gunships closing in for the kill, you have to duck the radar, avoid the bullets and still destroy your objective – whether that be a convoy, an airbase, a radar installation or any one of the many possible targets in the campaign.

Stephanie Ross

Sound

Considering the huge amount of detail that's gone into the game I was more than ready to sacrifice a little sound for the sake of smoothness, but was pleasantly surprised. The sound is on a par with any other sim on the market, and in certain areas it simply blows them away.

Gameplay

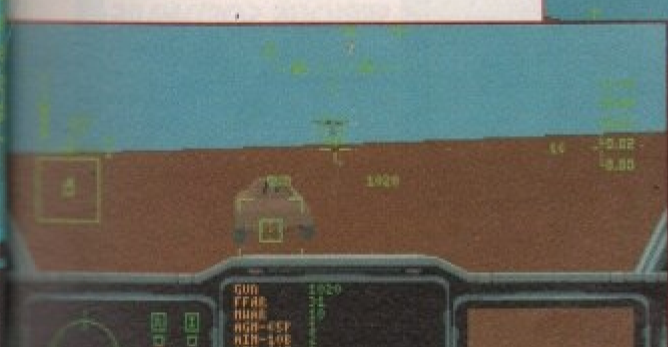
At the risk of sounding repetitive I have to say excellent again. If you want action with a challenge it can't be beaten, but having said that, the game-like style probably won't win too many friends among the 'realism or rubbish' lobby of flight sim enthusiasts.

Graphics

As you can see from the screenshots, the graphics are very impressive but the quality of the various objects is totally overshadowed by the amazingly smooth movement. It quite simply puts some other sims to shame.







Some air to ground exploits as radar, tanks and enemy choppers try in vain to take you out

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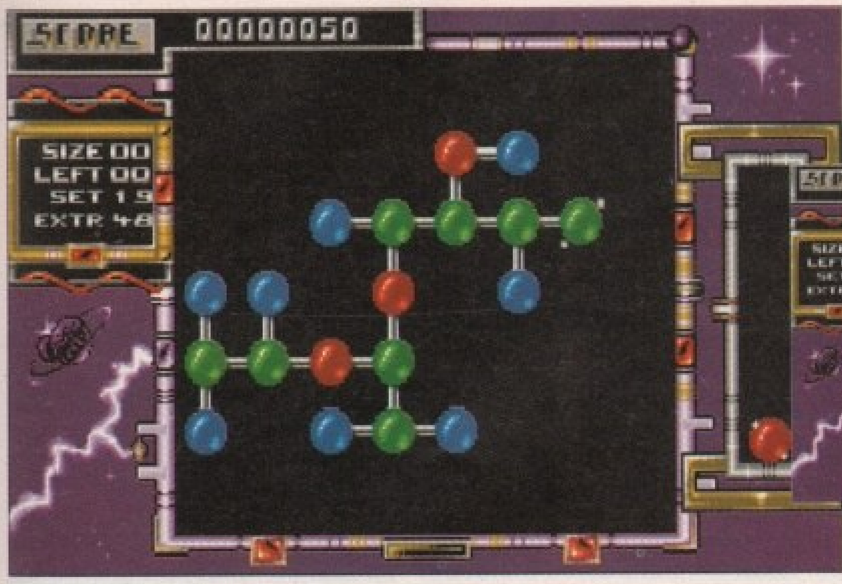
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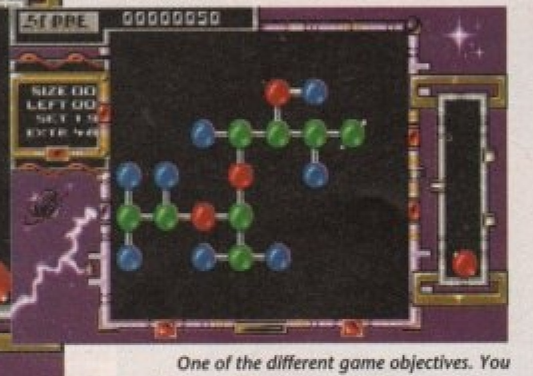
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VISA



The early grid starts to fill up with only a couple of links left to connect. No more jokes about the mighty atom, please



One of the different game objectives. You have to fill this block in a certain way before you can pass through to the next stage.

Gameplay

Atomino is initially very addictive. There are a couple of different types of level to add a bit of variety, but a few more would have made it much better. Very easy to get into and devilishly difficult to put down. Worth looking at, but try before you buy.

Sound

The in-game music is quite dramatic and adds to the atmosphere. The effects are great as well – for once, a puzzle game's sound adds to the fun of playing it.

Graphics

Puzzle games aren't renowned for brilliant graphics, and Atomino is no exception to this rule. The title screen is nice with a picture of old Einstein doing his stuff. Inside, the molecules are small but detailed. Generally not too bad.

Get charged up for...

ATOMINO

Distributor: Psygnosis   Price: £25.99

When Einstein split the atom I wonder whether he thought that in a few years people would get the chance to put them back together again? Atoms seem to be the subject of a new genre in the computer field. With Atomix from Thalion appearing last year, maybe this is the genre of the future?

Atomino is basically a puzzle game. All you have to do is join a number of molecules together so that there are loose links between them. Sound simple? Well, like all the best puzzle games, it's simple in theory but infuriatingly addictive in execution.

The game grid in Atomino is limited in size so the amount of space you can work in gets smaller the more molecules you use. All the molecules have a different number of links and they will only vanish when they have been bonded with no outstanding links. When they vanish you will have more space in which to operate.

The game is timed so you don't have long to play around with the molecules trying to get them to fit. On some of the higher levels obstacles appear that look decorative but serve only to further reduce the amount of play area you have left.

The molecules come in four forms. The stopper has only one link, so is useful for ending paths. The two-way is useful for creating and connecting corners. The three-way can be useful for diverting straight lines but the four-way is the really awkward piece – it only ever seems to turn up when you don't need it.

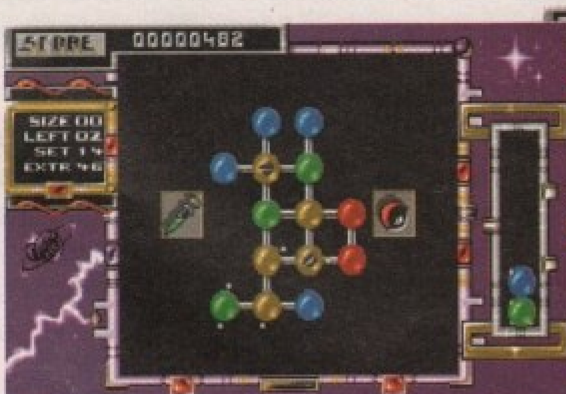
Atomino is one of those games that doesn't really look brilliant. As you can probably see from the screenshots, the magic of Atomino is in its addictiveness. But you will be surprised at just how challenging it really is.

The only real problem with it is that I don't think it warrants the full price tag, especially not £25.99. If you're heavily into this sort of game then it's a good buy but otherwise give it a miss.

Damian Carras

FINAL JUDGEMENT

75%



Obstacles soon start to crowd the grid, giving you even less room to work in than before. Sounds like the office...

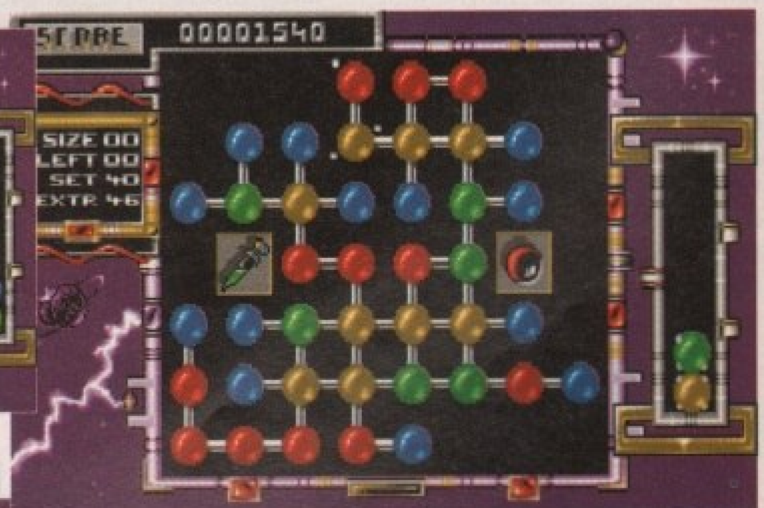
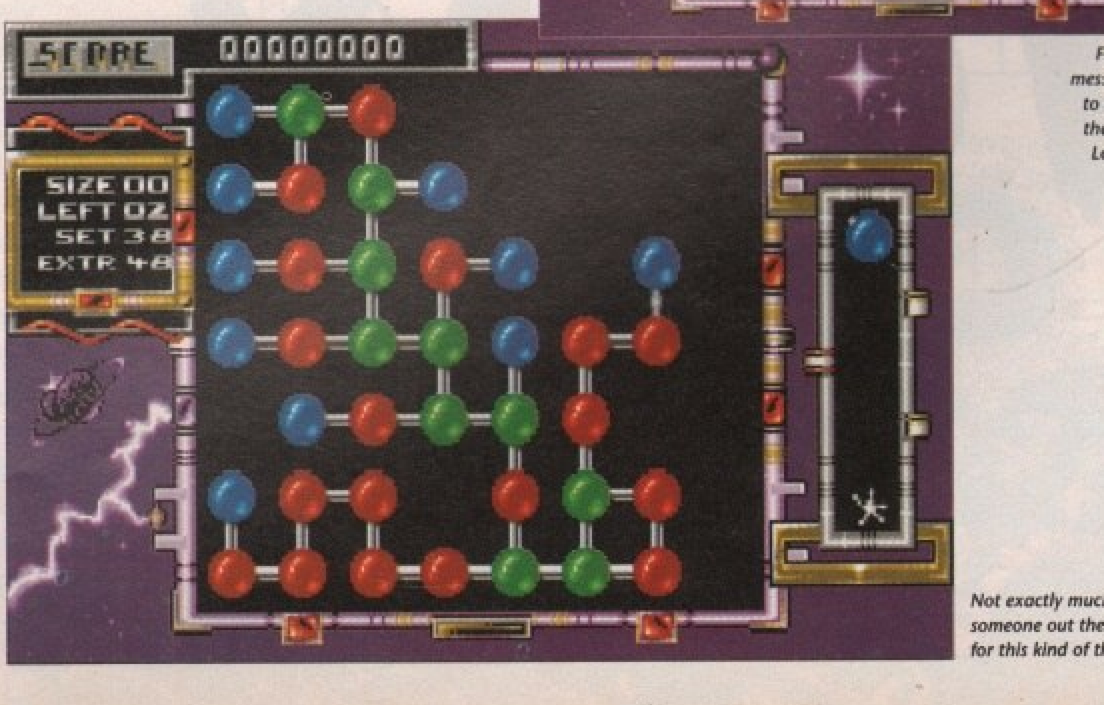


Figure a way out of this mess! Hardly any room left to operate and the pit on the right is filling up fast. Looks like it's game over for you, kiddo!



Not exactly much variety, but someone out there must go for this kind of thing



The first level is almost done



Running out of time, fats, and you're all over the place. Your only chance is to remove some of the pieces and start again



I didn't know this was the year of the cat. This is one of the easier shapes to fill, when you know how

Another Chinese puzzle?



Distributor: **Thalion** Price: **£19.99**

Simple puzzle games have a certain beauty in that while they are often easy to grasp, they can be so difficult to master. This is all very well of course, but their simplicity also makes it incredibly hard to say any more than a few words when reviewing – a cause for more reviewers' hair loss than cheap dye.

Tangram is one such game, designed by those masters of fiendish puzzles, the inscrutable Chinese. Apparently it is a national pastime of our Oriental friends, who have been playing it for over 4,000 years now – quite a recommendation!

The idea is to place seven grey geometric tiles on to a brown figure in the middle of the screen, covering it totally. Some of the figures depict animals, some buildings, people and other shapes that defy description – contortionists, maybe?

Your playing pieces are displayed on the right of the playing area, being picked up and moved using the mouse. Pressing the right mouse button turns the pieces a la Tetris, and a press of the left button places the piece on the board, hopefully in the right place. You can choose from two difficulty levels from the pre-game menu, either Novice or Expert. Choosing Novice mode gives you more time because the timer ticks away every two seconds and the levels are presented with a progressive difficulty.

Expert mode gives only one second every count and presents levels in no set order. A two player option is included on the menu which allows you to compete with a friend – or just show off when you get good at the game. In this mode each player plays separately, one after the other.

Playing the game is a cinch. The control method is very smooth and the first few figures are easy enough to get you off to a good start. After that, things begin to get difficult.

Just as you think you've cracked it, the pieces run out. You really start to wonder how on earth those shapes are going to fit. They will fit, of course, but not until you've done a lot of swearing and head scratching.

Points are awarded for completing puzzles in the time given. Any time left over is converted into bonus points, and these are marked separately on the right of the screen.

If you can't complete a puzzle in the allotted time, the bonus points you have earned so far act as extra seconds and these will start to count down to zero. Once these expire, all is not lost as there is the option of buying "continues" from your standard points – get the idea?

To prevent mental breakdown occurring from too much non-stop cerebral gymnastics, there is a very welcome pause facility. This allows a short break to ease weary brain cells, have a cup of coffee or just get on with the rest of your life. The game can be rather addictive.

Cheats beware however, as the playing area is obscured during this time, so puzzles can't be worked out without the timer ticking away. Bah!

If difficult puzzle games are your bag, you can't go wrong with this one. There are 200 levels supplied, so it is likely to take some beating – not to mention a lot of your time.

I've been playing it for quite a while now and still can't get past level 16. Mind you, I was never any good at knocking those shaped pegs through the holes as a kid, so maybe that accounts for something.

Ady Daw

Gameplay

Oozes playability, easy to get into and play. The 200 levels should result in a lot of lost sleep, but some may find the game a little too simplistic.

Sound

Pseudo-Oriental soundtrack gets on the nerves. No spot FX to speak of. Puzzle games really do need some kind of decent tunes and FX to prove really playable. Put on some Ryuichi Sakamoto instead for a real Far-East experience.

Graphics

Graphics are very clear and suit the feel of the game. Colours are used well, a sort of Oriental pastel that wouldn't be out of place in Don Johnson's silk pyjama wardrobe. Nice little backdrop of Chinese dragon on the play area.

FINAL JUDGEMENT

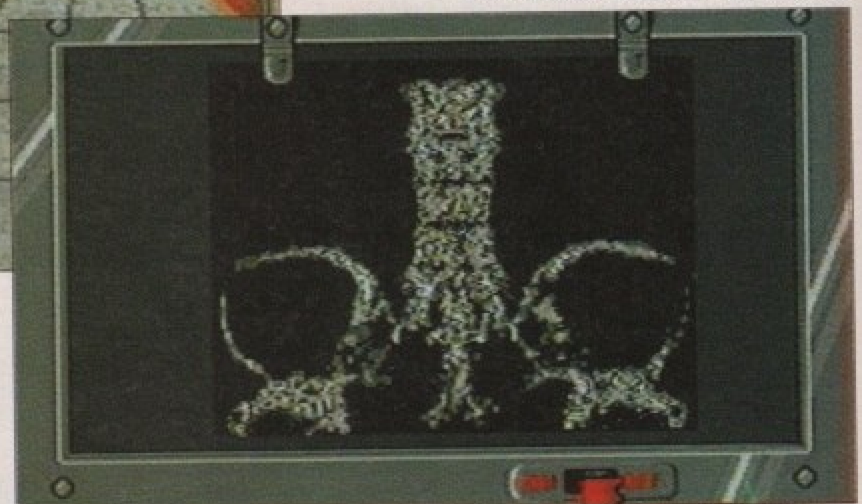
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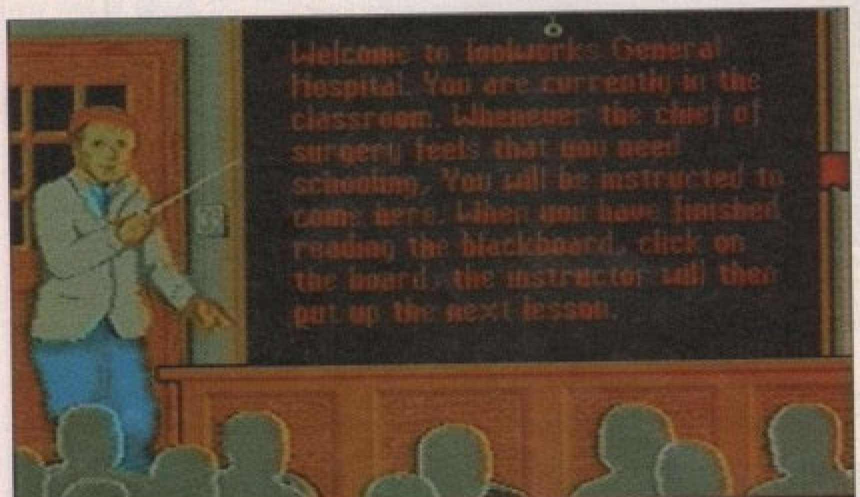
Time to sign in at Toolworks General. Hurry up, there's no time to hang around leching at the nurses waiting for you at reception



Yeah, this is the last view most of my patients get before their operation, and they never wake up again. They should have gone private



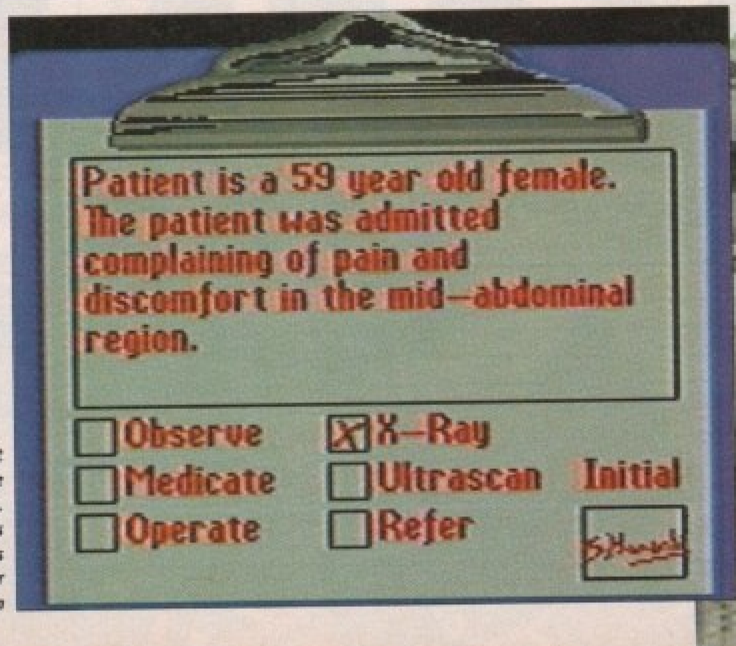
X-rays can help in your diagnosis of the problem, if you know what you are looking for. Looks to me as though this person is missing most of his body. Nothing a minor transplant won't fix



There is a classroom en suite to learn all the info and techniques needed to start your career as a potential Dr Kildare



My god you look ill, you should see a doctor. Oh yeah, I am a doctor. Well, what's wrong with you then? What do you mean heart attack? Get out you time waster



Yep, I can say without a doubt that you are not very well. Unfortunately there is a waiting list and as you are an ST owner you go to the bottom

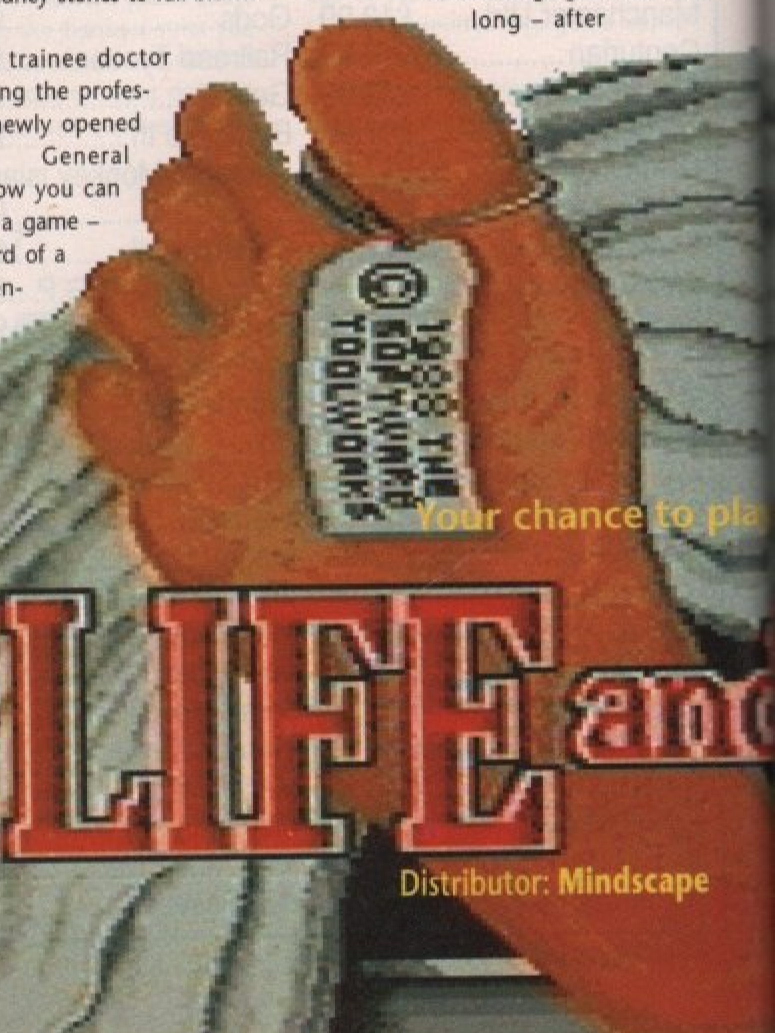
Many computer games are about saving people, but most of them have you slaughtering armies single-handed to save the woman or whoever. Well, things have changed a little now.

Mindscape give you the chance to play doctors and nurses from the comfort of your own operating theatre... er, I mean the comfort of your own home. No more mowing down hundreds of men with a machine gun – now it is up to you to cure people of various ailments from kidney stones to full-blown arthritis.

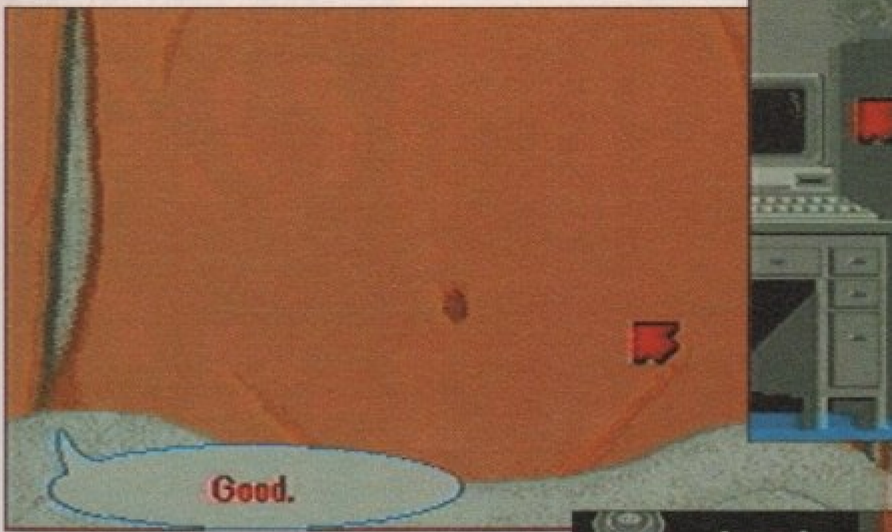
You are a trainee doctor who is learning the profession in the newly opened Toolworks General Hospital. (Now you can tell it is only a game – whoever heard of a hospital opening lately?) The authorities have decided that the best way for you to learn is by hands-on experience. Yep, it's in at the deep end for you.

On entering the hospital the first thing you have to do is sign in so the hospital knows who exactly is doing all the damage to its reputation. From here on in, the innocent patients are at your mercy as you attempt to show just how good a doctor you are.

The receptionist tells you where your next patient is so that you don't keep them hanging around too long – after



Distributor: **Mindscape**



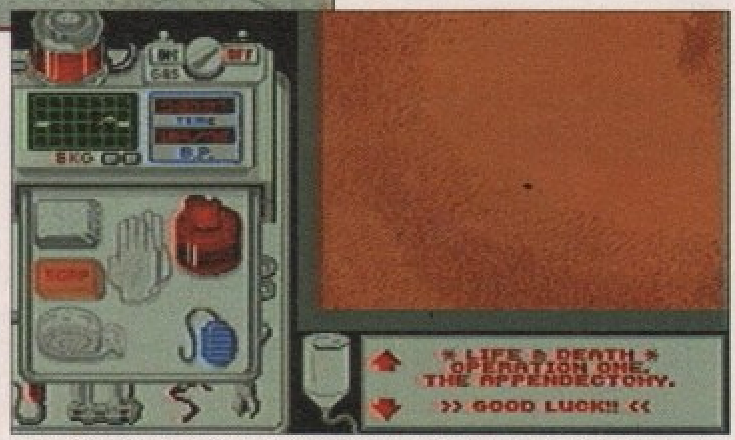
Excuse me, I'm just going to prod around your stomach a little.



Selecting the right staff for an operation is essential. After all, you don't want a fight breaking out over the operating table do you?



Set the scene, get the patient ready and watch me perform miracles. I will turn this near-healthy person into a corpse. Voila!



Now this is the fun part. Time to learn those operating procedures by heart because you can't stop to look at a book when the patient's guts are exposed to the world.

all, some of them don't have too long to hang around. On entering patients' rooms you see them lying in bed looking all sorry for themselves.

The first thing you have to do is look at the clipboard at the bottom of the bed to see what the patient is complaining of. From the clipboard you can order any test to be done, refer the patient to a specialist or you can decide to operate yourself.

Before you complete your diagnosis, however, you must physically examine your patient. This entails prodding them in the stomach to see whether it hurts or not. Correct diagnosis is essential if you want to further your career. After all, giving someone open heart surgery for indigestion is not exactly what you would call good doctoring is it?

If your diagnosis leads to surgery you had better prepare yourself for some of the most complex gameplay you are ever likely to see. You see, surgery is not just a case of opening your patient up with a quick slash of a scalpel, ripping out the problem and then a quick stitch to finish up.

First up you have to select the right surgical team. Some team members won't work well with certain others, so you have to get the balancing act just right. Then you have to prepare yourself, although this involves nothing more than making sure you are wearing gloves.

The fun starts as you prep the patient. The first time you operate I can guarantee that the patient will be dead in under a minute. There is so much to do to ensure longevity that you just won't think about some of what you have to do. Remember you have to anaesthetise your patient, sterilise the work area, inject certain drugs, the list just goes on and on.

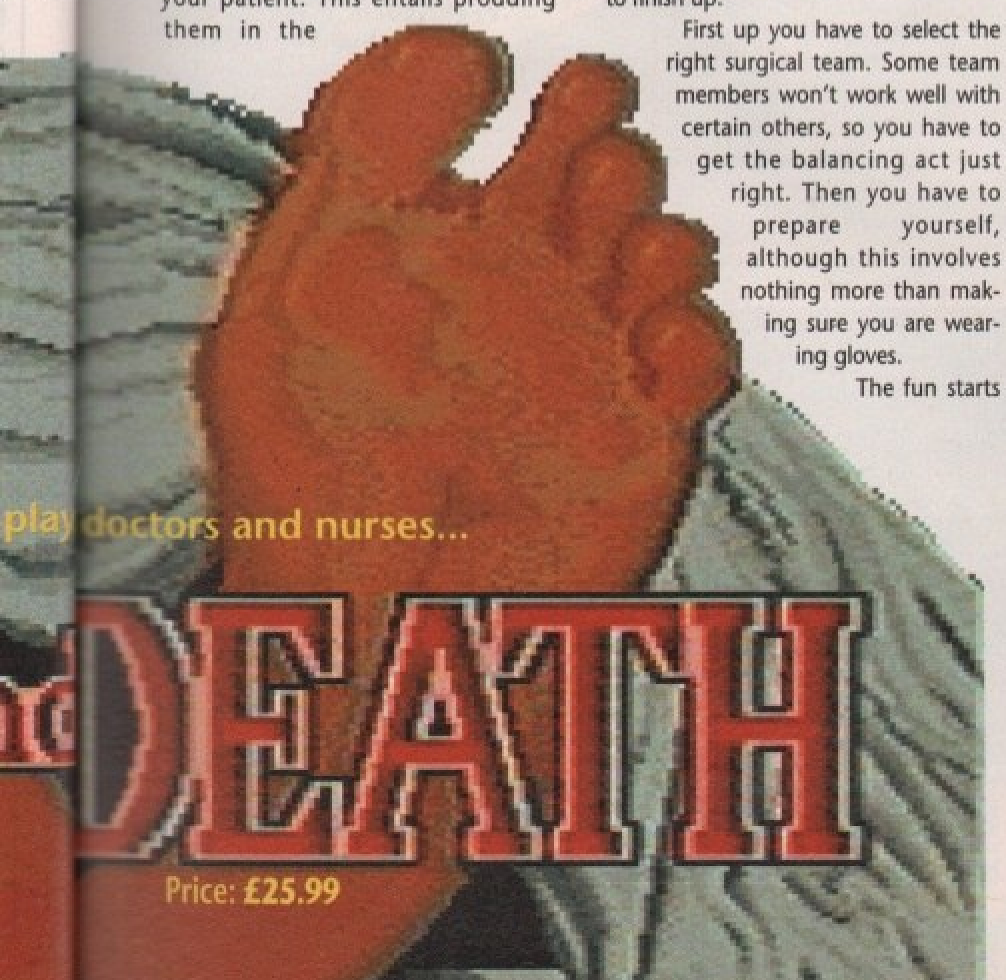
The scene is just as gruesome and bloody as the real thing. In one of my ops there was so much blood all over the place that I couldn't see what I was supposed to be cutting and this lead to the inevitable result – death for the patient. In fact, until you get the hang of all the aspects of the game you will probably end up killing a lot of people. Fortunately, the game doesn't end when you kill someone, you just get a reprimand from the head surgeon.

For those who prefer to learn as they play there is a classroom you will be called to after each treatment to learn where you went wrong and what to do in the future. Other doctors will page you from time to time to offer advice and information on the patients and their conditions but it is down to you to decide what to do and when.

Life and Death has been a long time coming – it has been on the cards for over a year now. Already a sequel, subtitled The Brain, has been released on the PC which promotes you to the role of a brain surgeon. Sounds gross!

Anyway Life and Death is a very nice-looking game. Gross but nice. To sum up, it may be a little repetitive if you keep getting your diagnoses wrong, but that should act as an incentive to do better.

Ben Mears



FINAL JUDGEMENT

90

Gameplay

The surgery part of Life and Death comes into its own as far as gameplay goes. There is so much to do it must be like the real thing. For added realism I suppose you would have to play the game for 72 hours at a time just like the real junior doctors do. Plain diagnosis can get a little boring after a while but the blood and guts of surgery makes up for it.

Sound

There isn't much in the game soundwise. You hear the doors opening and closing as you enter rooms. One very nice touch is the moans and groans of patients as you prod them to see where it hurts. Apart from this there is very little, but then who needs it in a game like this?

Graphics

The graphics just can't be faulted. Very clear and detailed around the hospital, and as for the surgery, well let's just say it can be very bloodthirsty and Mindscape certainly haven't pulled back from letting you see everything. If ever a game had near-perfect graphics, this is it.

The Flintstones were never like this

PREHISTORIK

Distributor: **Titus** Price: **£25.99**

Do you ever dream of living like our Stone Age ancestors did, free from the hassles of modern life – no Darling Buds of May, and even better, no Neighbours? Well now you can trade the hassle of the motorway for the menace of the prehistoric jungle in Titus' latest creation.

You play the caveman Prehistorik and your main object is to gather enough food to take you to the next level in this horizontally scrolling platform game. Armed with the lethal combination of a club and a bit of intelligence, the idea is to whack animals on the head, walk on them and then add them to your larder.

This quest for food takes you through the caverns of an unknown continent, Antarctica, and a tropical rainforest. As usual, at the end of each level there is a guardian to be removed.

However, of course it's not as simple as this. Touching the animals means the loss of precious energy and the more lethal of them can throw things at you or even breathe fireballs.

Another way that energy is lost is by walking into obstacles, and lives are lost by falling into holes or water. If the level is not completed in time, then you lose a life.

The other place to get food is in the caves or under ponds. Here the food is well defended but help is at hand because the caves contain things that are useful to you. There are clocks that add to your time, shields, axes to knock out the baddies quickly, bombs, crosses that add an extra life, and a spring to make you jump higher. These little devices can be picked up by cracking your meditating guru friend on the head and taking what's left behind. He comes and goes at will so catch him if you can.

Unusual touches are the trampolines that help you to jump higher, and best of all, the balloons which let you control the main character as he floats through the air.

This is one of the best games produced by Titus. It has simple, no nonsense gameplay and brilliant, melt-your-heart graphics. Even the baddies look cute – occasionally you might find yourself sympathising with them when they "buy it"!

George Choy

Some Stone Age villains

Gubba-Glub: Indescribably stupid and begs to be hit, but he could ambush you by surprise. Two knocks are needed to put him out of action.

Balor and Bobor: Not as friendly as they sound – they're man-eating bears. Two strikes and they're bear steak.

Pyro-tax: An ancestor of one of the Pacman villains, this mean mother can spit fire from that gob of his, so avoid him if you can. If you can't, then one hit on the head should see him out of it.

Piranie: One of the invincibles. Her teeth are sharp enough to bite through steel, so be on your guard.

Turtosaurus: The giant green turtle and what's more she's lost her home and is hungry, so either keep away or whack her five times if you want turtle soup for dinner.

Arakana: The defender of the caves. Any touch is fatal. Don't get trapped in her web.

Bad Bat: The other cave-dweller in the game. One crack with the club is all that's needed.

Chimp-agogo: This cheeky monkey lives in the trees where he lobs coconuts at you – but you can teach him a lesson with the club.

FINAL JUDGEMENT

70

Gameplay

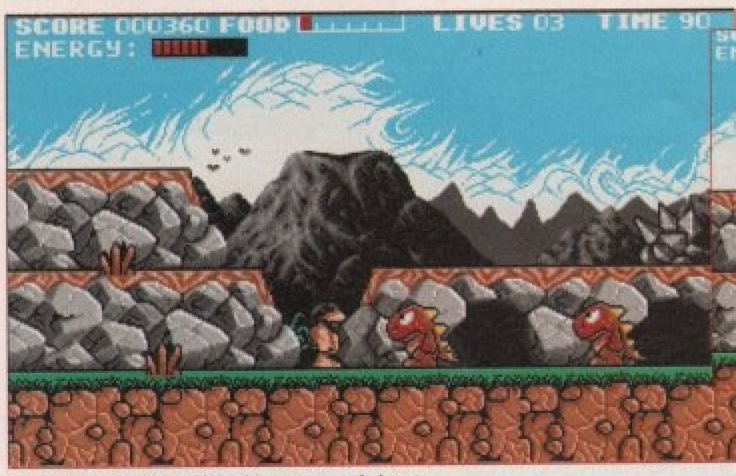
Although the animals look rather brainless, they come out at unexpected places which means you'll have your hands full. The invincibility of some animals makes the game more challenging than it looks.

Sound

Prehistorik's music is excellent and the sound effects are quirky and funny.

Graphics

The graphics are simple but effective. All the characters, both hero and baddies, look cute and this adds to the game's appeal.



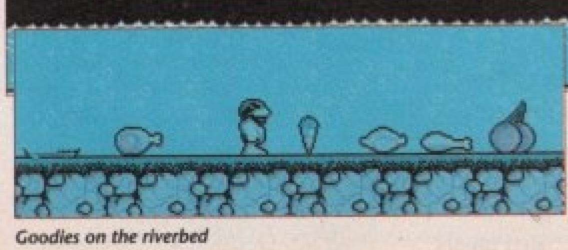
Two man-size Gubba-Glub about to meet their eater



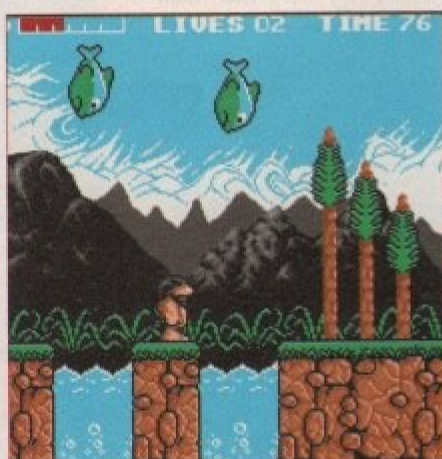
Prehistorik confronts a miniature turtosaurus



An example of early flight, but it's a pity there aren't any laser-guided missiles



Goodies on the riverbed



Avoid those deadly bouncing fish



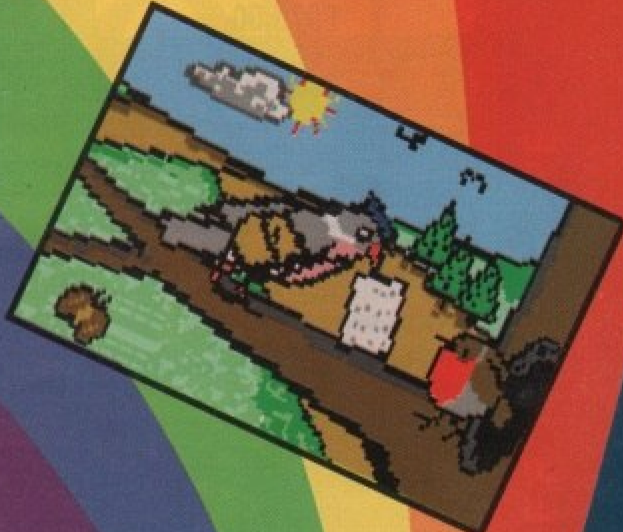
The now extinct Pyro-tax – a fire-breathing menace

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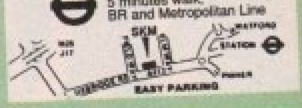
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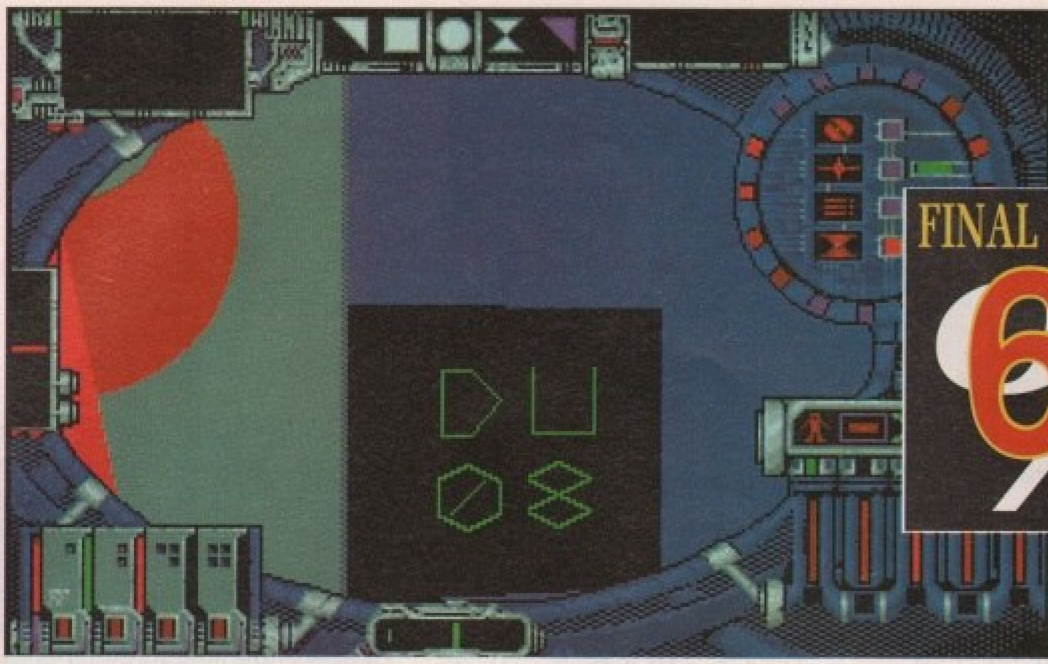
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Combat the crazed cybernetic computer!

CYBERCON III

Distributor: US Gold Price: £25.99

After years of war, their defenses crumbling, no longer able to utilise the complex weaponry at their disposal, the people of the Union created Cybercon. And boy, did they live to regret it!

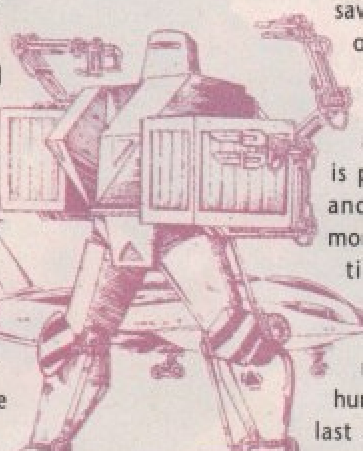
The first Cybercons were man's saviour, defending the Union against the attacks of the evil Alliance, then advancing to pulverise them. Peace, love, and free local phone calls quickly spread over the whole globe. Delighted children the world over played with Cybercon models and watched Cybercon cartoons. There were even plans for "My Little Cybercon" complete with realistic blood.

After all that, you'd think they would have quit while they were ahead but, fortunately for US Gold, they decided it would be a "neat idea" to create their ultimate nightmare: a computer which could not only think for itself, but which was entirely self-sufficient and equipped with enough weapons to control a Celtic-Rangers match.

Cybercon III (The Return) was born. Ho-hum!

In his formative years, Cybie was a well-behaved lad, and his patrolling warbots became a comforting sight to a populace wearied by incessant wars and repeats of old Wogan shows. In time, though, he began to grow up and started to cut off all contact with humans as he learned to fend for himself. Hardly anyone could remember where his control centres were located, and even fewer were bothered.

Of course, the same lethargic populace became rapidly more bothered about Cybie when his silos started spitting out nukes. As their cities began to vapourise around them, humans finally saw the logic in the old proverb: "He who builds dirty great computer and gives it nukes is playing with fire, and will need a lot more than a stitch in time to save his hide".



Cybercon III revolves around humanity's desperate last attempt to avoid annihilation. As Cybie's public relations droids scour the countryside for people to educate in the ways of the next world, the ever-generous Union equips you, its most gullible – er – experienced warrior, with a suit of power armour in which you must battle your way through the vast complex that is Cybercon III.

All you have to do is avoid or neutralise the robots, fixed guns, traps, and very deep chasms of the most formidable defensive complex in history, reach its core, and destroy Cybie's brain stem. No sweat.

The complex is made up of a variety of sectors, each of which is defended in different ways and demands a different approach from the aggressor. To proceed, you have to find various Sonic Key codes to open doors, extend walkways over gaping crevasses, and the usual "find your way through the 3D labyrinth" sort of stuff.

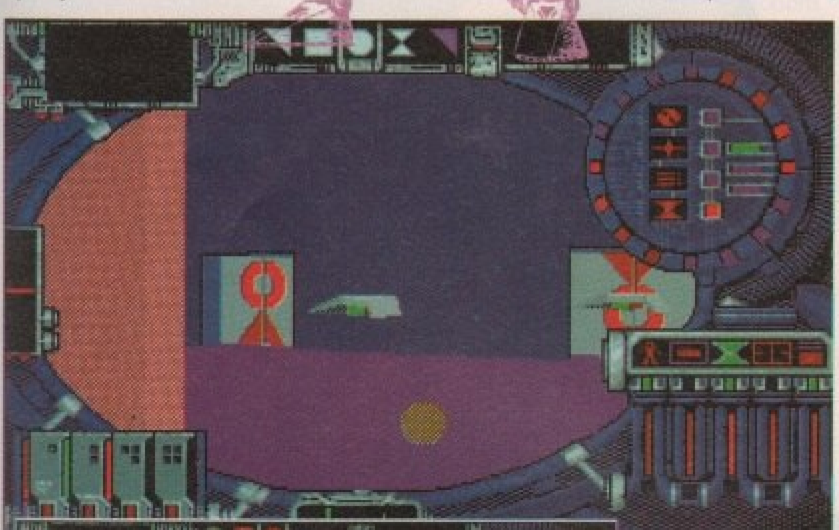
Your power suit, which should really be equipped with tactical nuclear weapons, sports a Plasma weapon which blips out little purple balls of what looks like chewing gum. The stuff destroys most Walker and Floater droids with ease, but you'll have to use tactics against some of the more dangerous obstacles.

The suit also contains some quite complex controls for auto-repair facilities, and comes complete with such optional extras as sensors, a video camera, shield, and power-assisted jumping. Would Sir care to take her for a spin?

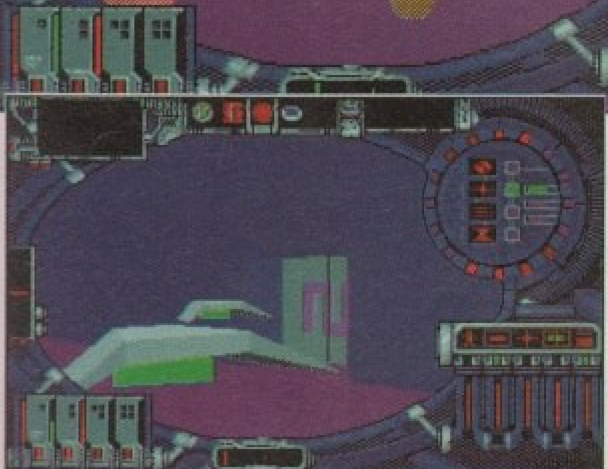
If you're a fan of the Castle Master series, or games such as Interphase and Infestation, you'll enjoy Cybercon III. If not, you'll probably hate it. Movement is slow, the action is hardly frenetic, and for sheer challenge, the puzzles don't compare with the stubborn refusal of the controls to do what you want them to at critical moments.

Perseverance, I suspect, would bring its rewards, as the game is undoubtedly very large and complex. Fans of the type will find a great deal to keep them going. The rest of us, however, will wisely give it a miss.

Sandra Foley



One of those pesky flying droids opens fire!



A flotilla of flyers

Gameplay

Neither fast enough for the action freaks, nor involved enough for the high-brows, Cybercon III's gameplay is a little like playing noughts and crosses on a very big neon board.

Sound

As usual in a game whose raison d'etre is its graphics and gameplay, the sound is abysmal. There's a sort of background hum accompanied by spot effects when doors open and shots are fired, but that's about it.

Graphics

Slightly better than typical for 3D labyrinth games, with smoothly animated doors, well constructed robots, and the odd spot of interior decorating.

Those amazing young m

F15 STRIKE

Publisher: Micropro



Come and meet Gaddaffi and the boys as you choose in which arena you want to fly

Game sequels rarely suffer from the same problem as film sequels. With films, the follow-up is never anywhere near as good as the first – with the odd exception – but games sequels are nearly always an improvement on the original.

Luckily, F15 Strike Eagle II is not one of the exceptions. I can safely say that it is a huge improvement over the excellent F15 Strike Eagle that was released absolutely yonks ago.

About a year ago Microprose launched the sequel on to the PC but Amiga owners have had to wait until now for their version. In that year the programmers decided to make the Amiga version even better than that on the PC. "Not hard to do!" I hear you cry, but the PC version plays a mean game.

The F15, for those of you who have had your head buried in the sand for the last year, played a critical role alongside British Tornadoes in the Gulf conflict. In fact, the way that Saddam's forces were militarily disabled and unable to respond to allied attacks was primarily put down to the F15.

But, tastefully, Microprose have chosen not to have an Iraq scenario in the game. True, they do feature the Persian Gulf but the Gulf has always been at flashpoint so it adds atmosphere to the game.

F15 II utilises all the roles that this aircraft can play, be it air-to-air attack or air-to-ground. The plane is awesomely powerful in both roles. Just how well it flies, however, is entirely up to you.

There are six arenas in which you can fly. These are the Persian Gulf (naturally), Vietnam, Central Europe, the Middle East, North Cape and North Africa.

Microprose boast of a total playing area of half a million square miles, and after playing the game I wouldn't argue with them. Each of these arenas contains hundreds of missions which differ every time you play them so your chosen tactics in each are vital to success.

There are four skill levels allowing beginners to pick up the basics really quickly or flying aces to have regular dogfights with the best. And for those who can fly the things easily enough but seem to crash every time they even think about attempting a landing there is an easy auto-pilot option that will do all the hard work for you, leaving you free to concentrate on the action.

As with most flight sims these days you can view the action from viewpoints both inside and outside the aircraft. Used properly this can lead to amazing sequences where you can view enemy planes coming into range and see your missiles homing in and blowing them to bits.

Military hardware buffs will freak out at the authenticity of this sim – all the weapons perform exactly as they should, although unfortunately there are no Cruise missiles to watch turn corners.

Everything is so precise and accurate you can hardly believe it's just a game. Even the enemy planes and ground attack crews don't just sit around like Sidewinder fodder – they react intelligently to everything you do, so you will need to be fast and accurate to take them down before they do the same to you.

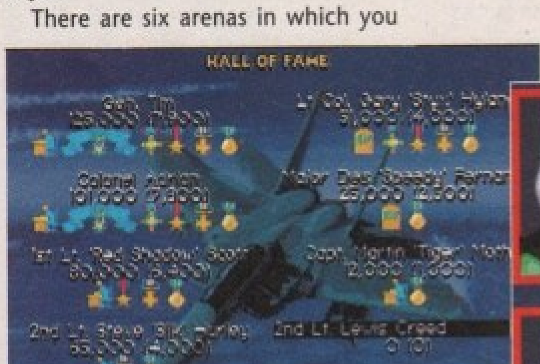
After signing in on the roster you choose your operating theatre. Then it's time for the mission briefing where you are given your primary targets (those you hit first) and your secondary targets (those you hit if you feel like it). Then you clamber aboard your fighter and get airborne.

As soon as you are up you use a combination of your radar and the waypoint selector to fly as quickly as possible to your next target. Of course, the enemy are not going to just sit there and take it. If you are up too high the SAM sites will fire deadly air-to-air missiles at you, although if you spot them in time you will be able to deploy counter measures. Just what you do depends on whether the missile is radar homing or heat seeking. Enemy airfields also react to your presence, sending up fighter aircraft to bring you down to earth with a bump.

When you are attacking targets, be they primary, secondary or inconvenient enemy reaction forces, you must select the most effective weaponry and tactics to take them out quickly and effectively. Your plane is equipped with a varied arsenal and each weapon is most effective in a particular role – it's up to you to decide when to use which one.

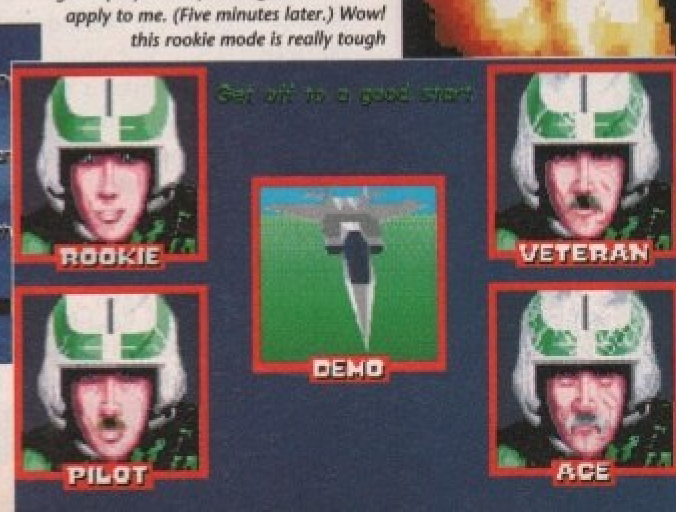
If your plane is still in one piece after all this you can return to a friendly air base – preferably the one from which you started – to





Welcome to the hall of fame. Why haven't I got as many medals as them? It's just not fair! Maybe I should try to fly the plane first?

Hey, I ain't no rookie, I'm a professional game player. Only the highest skill levels apply to me. (Five minutes later.) Wow! this rookie mode is really tough



ng m their flying machines...

E EAGLE II

roprose Price: £34.99



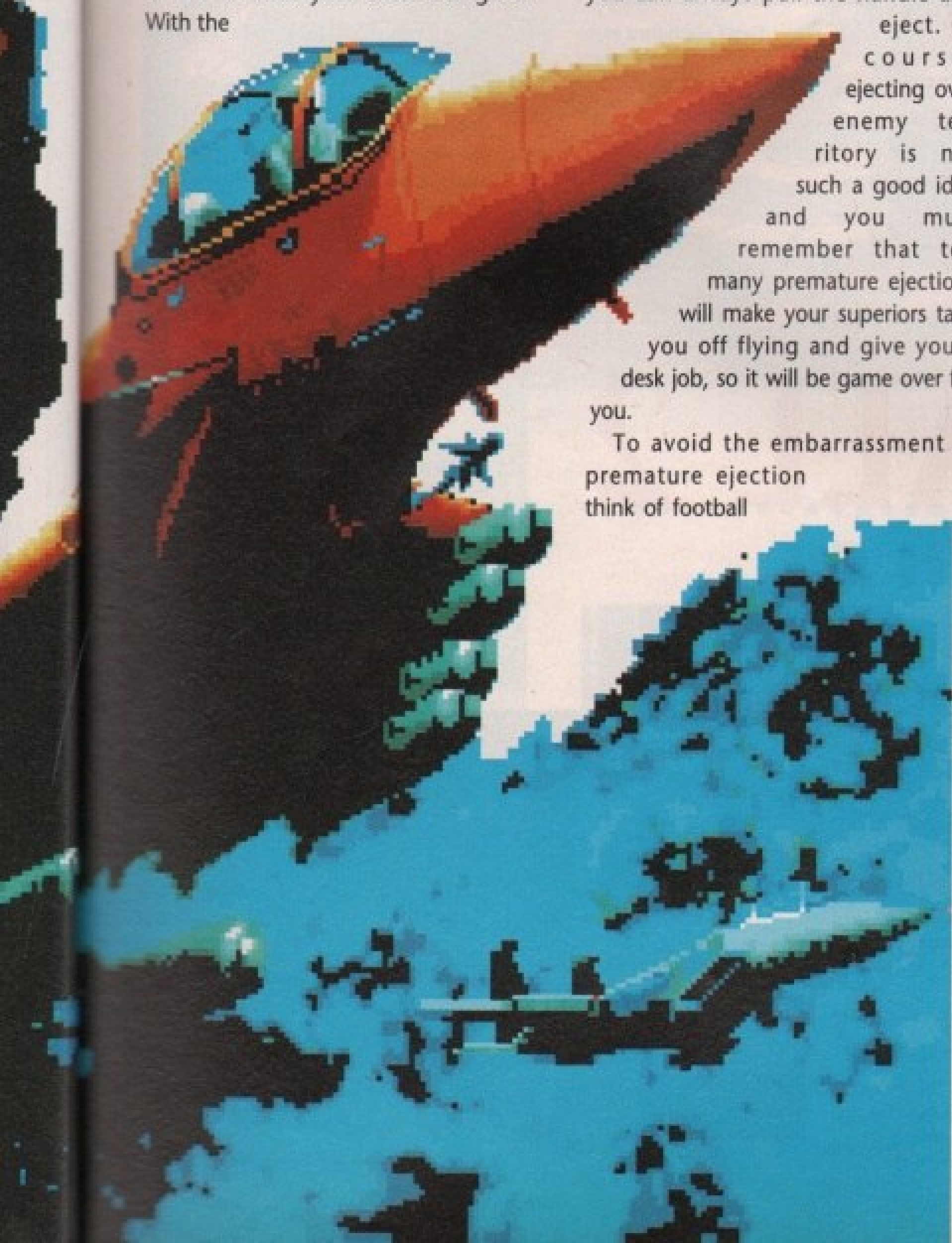
Coo, all these buttons and switches and I still can't find the in-plane CD system, or even the cigarette lighter

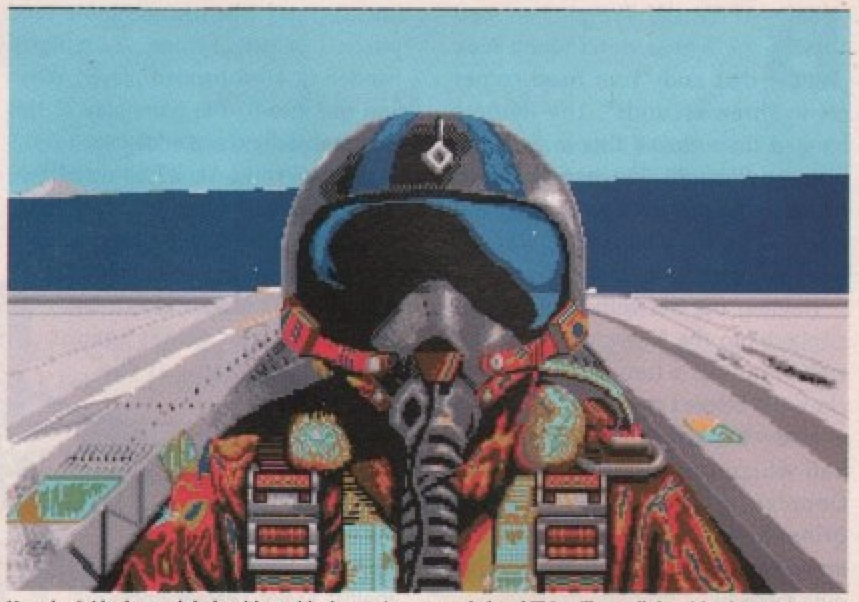
collect all the praise from your commanding officer. A brave performance and enough points gathered for wasting bad guys and completing missions will see you being awarded a medal for your efforts.

But one medal doesn't look very nice on its own, you will have to get several to make your chest look good. With the medals come promotions, although the enemy will consider shooting down a major much more worthwhile than shooting down a rookie private, if you get my meaning.

In mid-battle, if you are in trouble and the enemy are taking great delight in taking your aircraft apart bit by bit, you can always pull the handle and eject. Of course, ejecting over enemy territory is not such a good idea and you must remember that too many premature ejections will make your superiors take you off flying and give you a desk job, so it will be game over for you.

To avoid the embarrassment of premature ejection think of football





Hey, don't I look a real dude with my black sun visor on my helmet! This will get all the girls after me for sure

or something to take your mind off it.

On the whole F15 II is without doubt one of the best flight sims around at the moment. As you would expect from Microprose the packaging is excellent.

The manual is one of those things that you could take to bed for a read. Techy buffs will love it. The action is very fast and covers all the theatres of combat that are relevant at the moment. Without any doubt, F15 Strike Eagle II is an essential purchase for the serious game player.

Lewis Creed

FINAL JUDGEMENT

9/10

Gameplay

Second to none. Six different theatres of operations with hundreds of missions in each.

This will keep even the most hardened fan going. Microprose have unleashed a classic on the game-playing public.

Sound

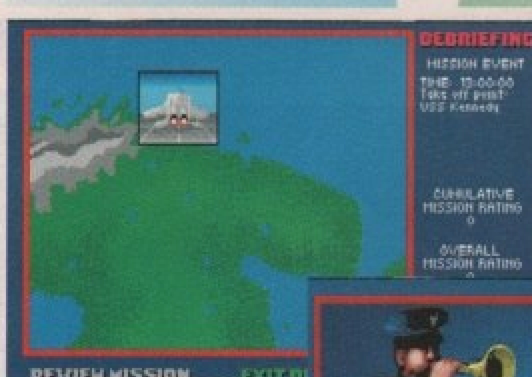
As you would expect, there isn't much in the way of music but in a game like this you really don't need it. After all, how many pilots listen to music while flying combat missions?

The effects are pretty neat and add to the atmosphere of this masterpiece.

Graphics

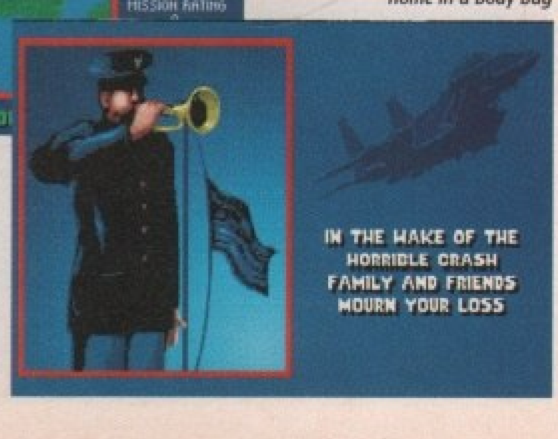
The 3D is very fast in F15 II and works well. The non-game screens are very colourful and well detailed. Graphics as good as this make the game a pleasure to play. Combat sequences are very well done and atmospheric.

All in all, probably the best graphics in any flight sim.



At the end of each mission you get a full debrief on what you did and who you did it to

Whoops, premature ejection can prove deadly, especially if you are flying low. They'll be sending you home in a body bag



Domark's latest sports sim hits a home run

RBI BASEBALL 2

Distributor: Domark Price: £29.99

BATTER UP! The pitcher eyed me with a determined look that said "Your head comes off in three seconds", the fielders banged their gloved fists in anticipation, and the 25,000-strong crowd roared like a pack of beer-swilling animals which, funnily enough, was just what they were.

Holding the bat with trepidation I stepped into the limelight, the pitcher wound up like a turbocharged alarm clock and before I could say "Hang on a minute – this isn't rounders, is it?", the ball whizzed past me in a blur of Doppler distortion. The catcher grinned, spat, and delivered that immortal line "Steeeeeerrriiike! You're outa there!"

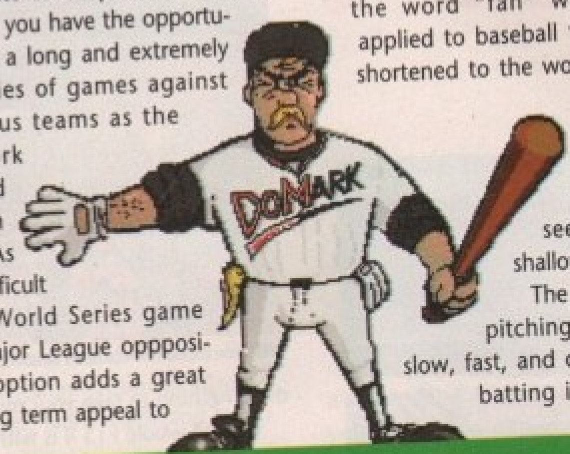
And all this from a game invented by English schoolgirls! Anyone, like me, nurturing fond memories of halcyon summer days playing rounders in the sun can forget it, however. Our colonial cousins have added overarm bowling at speeds your average Ferrari would be proud of, and stretched the bat and the diamond to more "manly" proportions. You can think of Baseball as rounders with Rottweilers.

RBI Baseball 2 is Domark's latest collaboration with arcade coin-op kings, Tengen, and betrays its origins in every byte of coding. It's bright, colourful, and animated, and the controls are only as complicated as absolutely necessary. So what about the gameplay?

If you're a fan of American baseball already, the game plays as a tactical struggle between two sides of players with batting and pitching averages arrived at, apparently, after some weird calculation carried out by a Cray computer.

At this level, the most important aspect of play is when and where to play the best players, who to use as openers, and when to substitute tired pitchers or switch from, say, a right-handed to a left-handed player. When you get into it, the gameplay at this level is absorbing and addictive.

In the World Series competition, which turns seemingly fit and active Americans into couch potatoes as soon as it hits TV, you have the opportunity to play a long and extremely testing series of games against such famous teams as the New York Yankees and the Boston Red Sox. As it is very difficult to win a World Series game against Major League oppposition, the option adds a great deal of long term appeal to the game. In a single match, skill levels can be varied from Little League, through Minor League, to the numbingly difficult Major League, so there's enough variation to give beginners a chance and maintain the challenge for experienced players.



If you're not a baseball fan (trivia tip: the word "fan" was originally applied to baseball "fanatics" and shortened to the word we all take for granted today) RBI Baseball 2 will initially seem just a little shallow.

The play actions for pitching are limited to slow, fast, and curve balls, and batting is a choice of a full swing or a bunt, nothing more. However, once the statistical gobbledegook that is the Stateside sports' fan's staple diet starts to make sense, the game opens up and takes a real hold.

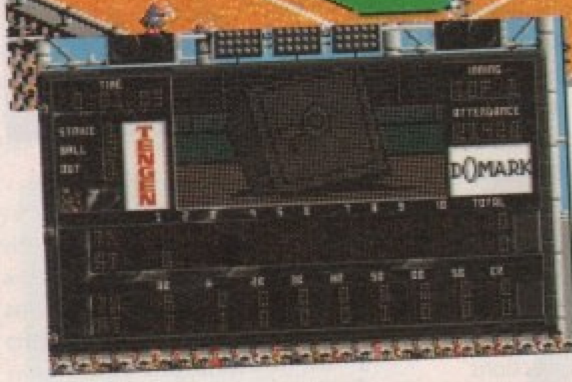
After a couple of Little League games with the same side, I felt confident enough of my team's strengths to try a game in the Minor League, but the experiment proved to be a little premature.

Some people might think 15–4 is a thrashing, but just you wait and see. My lads'll show 'em next year. Now, where did I put that video of *The Manageress*?

Sandra Foley



That's one batted high wide and handsome



Safe at first base!

FINAL JUDGEMENT

7/5

Gameplay

Initially a bit limited for arcade fans, the sports sim element soon takes over and rewards perseverance with an engrossing tactical action game.

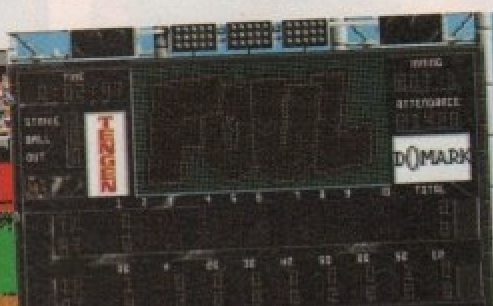
Sound

Digitized shouts and thwacks, along with music to match the scoreboard animations are all very good, but the crowd noise when a home run is scored is horrendous.

Graphics

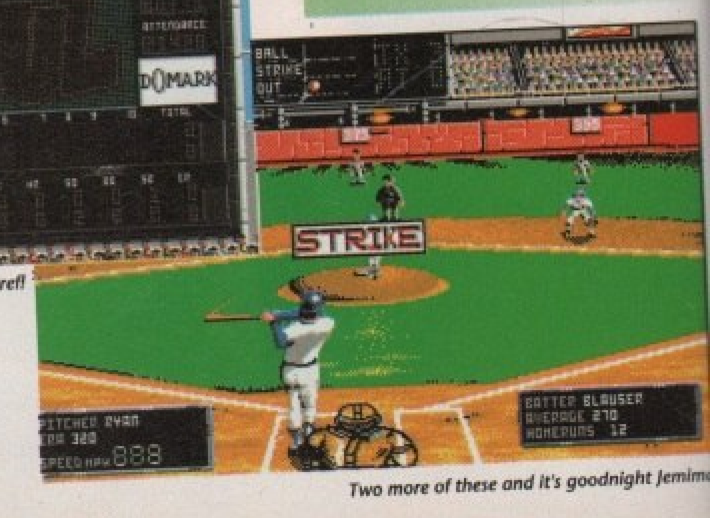
Colourful and well animated, RBI makes an instant impact. Spot animations for scores, outs, and fouls add to the atmosphere and the static screens are nicely drawn.





You must be blind, ref!

The view from the batter's plate is quite daunting



Two more of these and it's goodnight Jemima



We need you!

If you think you're the kind of person who can run rings around Interceptor, trade blows with the Predator and even give Arnie Schwarzenegger a damned good biffing, then we want to hear from you. We're after tips, cheats and tricks for just about any Amiga game.

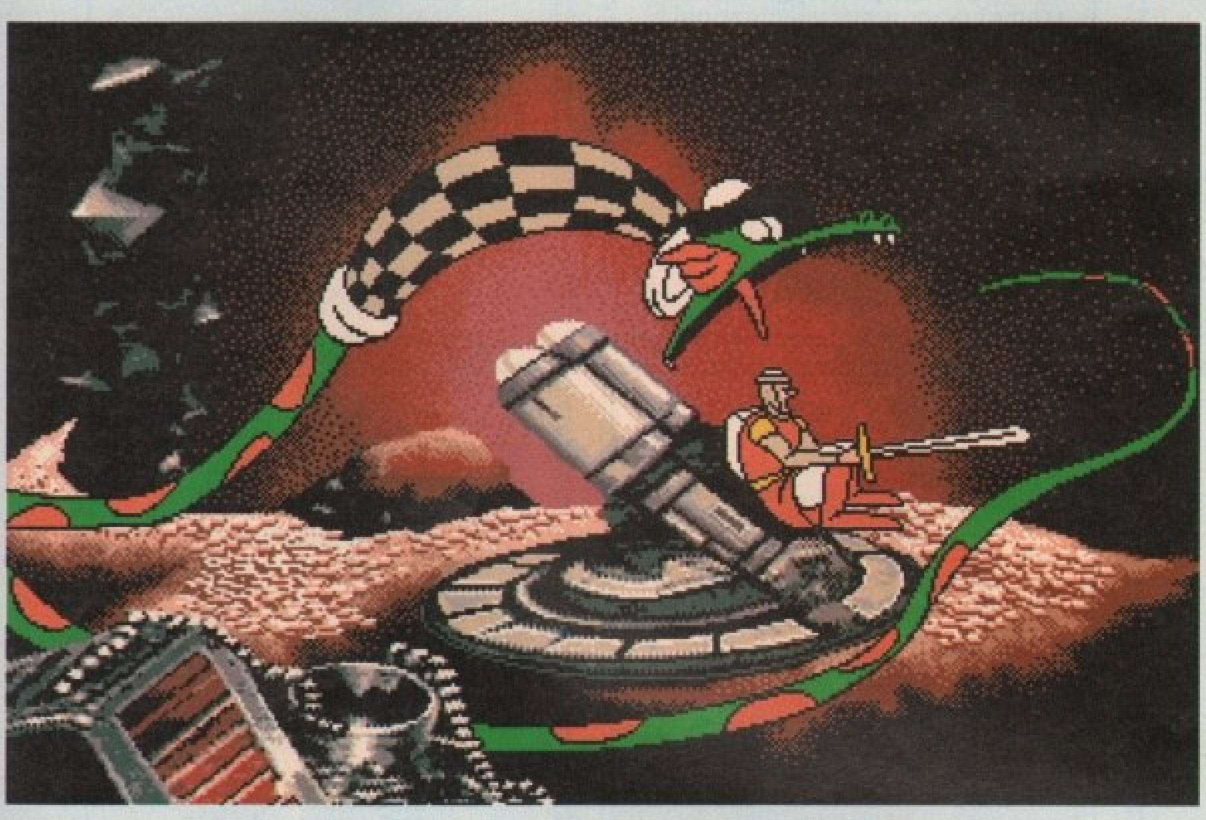
Don't forget though, the newer the game the better – we're particularly interested in cheats and tips for any games reviewed within this issue.

Send your tips to: *THE TIP SHOP, Amiga Computing, Europa House, Adlington Park, Macclesfield SK10 4NP. Come on, stop reading and get writing!*

If that new game gets too tough, take a trip to Jason Holborn's GameZone Tip Shop. He might be able to sell you a solution

DRAGON'S LAIR 2

If Don Bluth's animated classic is leaving you stumped, then type '"GET MORDOROC DIRK" on the title screen. You will now be able to run through the entire sequence of screens without having to complete them first.



MONTY PYTHON

Do you want a cheat for Virgin's Monty Python? Know what I mean? Nudge, nudge, wink, wink. Know what I mean?

When you get to the high score table, enter your name as "SEMPRINI". You will now be able to skip to any level – up to the one you previously got to – using the cursor keys.

TOTAL RECALL

Arnie may be a pretty tough character, but even he would probably admit that a little bit of help wouldn't go amiss occasionally when things get tight.

To turn on the cheat mode enter "LISTEN TO THE WHALES" (with no spaces). Now, in the Johnny Cab section, enter "JIMMY HENDRIX" (with no spaces again) and you'll have infinite energy – something that even Arnie doesn't have.

CHAOS STRIKES BACK

Give the Evil Wizard a damned good thrashing with this cheat from Lisa Humphries of Semington in Wiltshire.

Find a Dragon and cast a "MO ZO GOR SAR" spell. Next, press Escape twice to pause the game. Now, while keeping the left ALT key down, enter "LORD LIBRASULUS SMITHES THEE DOWN".

Unpause the game, kill the Dragon and it will leave a Fire Staff. With this little beauty by your side, your party will be totally invincible.

HARD DRIVIN' 2

You may drive a Ferrari Testarossa, but you have to admit that it handles about as well as a shopping trolley in Domark's conversion of the Atari coin-op Hard Drivin' 2.

To keep your no claims bonus, take the car up to top speed and then take it out of gear and into neutral. You will now be able to cruise around the track without sliding off the road or having to worry about colliding with objects.

PP HAMMER

Oops! Those of you who tried to use the PP Hammer level codes published in last month's issue will no doubt have discovered already that they don't actually (as such) work as they should. In fact, they don't work at all.

The reason for this colossal boo-boo is simple: PP Hammer generates unique level codes for every name entered, therefore unless you enter the correct name, you'll get a different set of codes to the ones published.

To get our codes to work, enter your name as "HAMMER". You'll then be able to access any one of Hammer's 62 levels. Rest assured that the person responsible has had his knees stapled together.

DYTER-07

To make the going slightly easier, type "GIBB" as soon as the title screen appears. Now, during the game press "W" for extra weapons, "S" to top up your shield and "L" to skip levels.

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Broadcasting news

Stevie Kennedy looks at how 24-bit Amigas are being used for 24-carat quality TV

As a machine offering high quality graphics, ease of genlocking and a range of video peripherals and software, it wasn't long before the Amiga began to make its mark in television. Until recently, however, it has been only a small-time player.

Although excellent in the context of home and business computing, the Amiga's 16-bit graphics are simply not good enough for extensive use in a professional broadcasting environment.

But the Amiga is already probably the most popular choice of machine for video professionals in the US, where 24-bit add-ons are available in greater numbers than in this country, and where it has the advantage of outputting an NTSC-compatible video signal. In Britain, however, producers of high-end TV broadcasts have hitherto used the Amy in only a minor supporting role.

Programmes such as *Catchphrase* and the popular ITV *Chart Show* have been using the Amiga's standard output for graphics effects for several years. These shows, however, have represented only a scattered use of the Amiga for simple spot effects and the odd animation.

With the advent of 24-bit technology for the Amiga, the machine's role as a low-end budget TV graphics machine is set to change. Broadcasters are beginning to realise just how flexible and powerful a tool the Amiga can be when armed with 24-bit graphics, and it was in pursuit of the Amiga's broadcasting breakthrough that I packed my bags and headed north to the fair city of Glasgow.

Clyde visions

The city which brought you Taggart, Tutti Frutti, and – in days gone by – 25 per cent of the world's merchant shipping, is now turning its not inconsiderable energies to the next century. In the best traditions of the "silicon glen", computers are playing a major role in the city's rejuvenation.

I found the Amiga doing its bit in the service of Leslie Mitchell and Associates. The company, which specialises mainly in corporate and marketing videos, have recently completed recording the fifth series of *Catchword* for the BBC. As a quiz show involving word and letter puzzles, *Catchword* was an ideal candidate for the Amiga treatment.

"We used to use a BBC-B for our graphics effects", Leslie Mitchell told me, "so they were necessarily quite basic. I think our existing fans will be surprised at the quality of our new-look graphics".

The show, which goes out on BBC2's 4pm slot, attracts a regular audience of between two and four million viewers and has built up a dedicated following over the past few years.

"We find our audience is full of scrabble and crossword fans", said

Leslie. "In fact, we use the same dictionary as that used by the official Scrabble game. The word puzzles are quite varied and difficult, so we're a bit more quiz-oriented than some other game shows".

How exactly is the Amiga used in the production of the show?

"We used the machine for just about everything, from the titles to the graphics and sound effects".

And these were all generated on the Amiga?

"Not all. The ray traced graphics were done by Peter Wilson in Real 3D and the titles generated using Broadcast Titler 2, but the sound was created elswhere then imported for the Amiga to produce during the show".

So the Amiga was being used in real time?

"Yes, we actually had an Amiga operator sitting in the gallery taking his cue from the director. When we wanted an effect or animation, the operator received the cue and the Amiga flashed the graphics to the monitors for the contestants and audience to see. Everything went straight to video in the studio before a real audience".

The Amiga's catchword, if you'll excuse the pun, has to be flexibility. Leslie assured us that the work done with the Amiga would not have been possible with any other system.

"We didn't just need the broadcast quality graphics", he said. "We also needed to be able to randomly generate letters, run animations, and play sound effects all at the same time. It was the Amiga's multi-tasking capability that helped most in that respect".

And from where did the Amiga get its 24-bit broadcast-quality graphics? You guessed it – our old friend the Harlequin card from Amiga Centre Scotland.

Leslie Mitchell originally started using the Amiga because it offered the corporate video producer a good budget level graphics tool. With the addition of a 24-bit graphics card such as Harlequin, however, the machine is capable of graphics indistinguishable from those which are output by industry standard machines such as Paintbox.



Tried and trusted

I wanted to know how well the Amiga had behaved in the trying conditions of a TV studio and in the demanding schedule imposed during filming.

"I'm pleased to say that we recorded sixty shows, four a day, and the Amiga was in use from noon till nine in the evening. In all the time we were recording, it didn't crash once. We were very impressed by the Harlequin and the software we used".

The software's good behaviour throughout is, according to Leslie, a tribute to the programming skills of its author, Mick Tinker. Mick, who is also the man responsible for all of Harlequin's libraries and device drivers, had less time than most software writers would expect in which to develop custom software.

"I was shown the rough ideas two months before they started filming", he told me, "and I saw the first completed animations with only three weeks to go. Time was definitely the biggest problem".

The Bryan software, named after the man who originally developed the *Catchword* series, was custom designed by Mick to the BBC's tight specifications and consists of two main parts. The first is a simple database-like program into which the data used in each show is typed, and a real-time studio mode used to control the Harlequin and graphics during filming.

"From the off", said Mick, "ease-of-use and speed of operation were the main factors. I kept all operations in studio mode down to a single function keypress, wrote some fast animation routines, and tried to keep the size of the graphics down to the minimum. Some of the animations we used were over 7Mb and many of them had frames as large as 350k each!"

Viewers of the series, which is due to be screened in October, will find the graphics designed by Peter Wilson using Real 3D a massive improvement over those in previous series. They are colourful and very smoothly animated, so it's not surprising they were a handful to manage.

And is Mick pleased with the software's performance?

"Yes. It was the first project of its kind we'd tried on the Harlequin and it definitely proved itself. It was rock solid all the way through".

Amiga Centre Scotland's Martin Lowe was every bit as pleased with the card's first extensive professional field test. "We are pleased", he told me, "that the Harlequin has shown itself fully able to perform correctly in a broadcast environment, meeting all broadcast specs and requirements". That, after all, is all you can ask of any piece of equipment.



The main data entry screen

Input or edit the programmers' word puzzles before using them in Studio mode

Catchword's hidden word game

What the Butler saw

My next stop in Glasgow was just up the road at Scope Picture Productions where Amiga artisan John Butler toils daily as a Paintbox operator. I found John hidden away in a darkened cubicle full of extremely expensive video equipment and an Amiga with its top off.

"Have to keep it cool, you know", he said. A cursory glance told me that this particular Amiga would be more prone to heat build up than most.

Packed into its quivering shell was 8Mb of ram, a 25MHz GVP 3001 card, and a Harlequin, all working overtime on John's Amiga projects. These projects turned out to be some of the most impressive and original ray-traced animations I'd seen in quite a while. Commercially, the first application of John's work is an advertisement for an 0898 chat line, featuring a dancing telephone and two sets of chattering false teeth. In terms of its graphics, it has to be one of the best advertisements I've ever clapped eyes on for the sort of quality one can wrest from the bowels of an Amiga.

Why use the Amiga?

"The hardware is as good as it can be because it meets broadcast spec and it's 24-bit".

You mean with the Harlequin?

"Yeah, and Imagine is pretty fast, so as a system the Amiga's unmatched at ➤

the price. For professional video users it's got to be the choice".

So you see yourself using it more in the future for your professional work?

"Yes, but the software could still improve a lot. The Amiga is fine and Harlequin works well, but the software available still leaves a lot to be desired. There's no 24-bit paint package available yet for the Amiga, except TV Paint, which is in French, and the ray tracers could be a lot better".

I thought you favoured Imagine?

"I do. I mean, Real 3D is pretty useless for any complex work you can't build up out of primitives. Try making a company logo using just a lot of spheres and cubes! Imagine is much better because it allows you virtually to draw the shape as you go along, but it still has a long way to go. It's fast and a lot more flexible for my needs, but it's still missing a few essential features, like complex spline bending".

Spline what?

"It's where you can build a complex object out of lots of smaller ones, then bend the whole thing as one object. When you can do that, animation becomes a lot easier."

Splines, I later discovered, are a sort of flexible mathematical curve to which you can fit a line, thus bending it in exactly the way you require. In the case of 3D objects, the manipulation of a spline allows you to distort entire objects.

John's dancing telephone, for example, is a complex object which stretches and squashes at it cavorts around on stage. To achieve this effect, he was forced to manipulate each and every component of the telephone. Needless to say, if the phone could have been distorted as a single complex object it would have greatly accelerated the animation work.

To be fair, this is a criticism you could level at all Amiga ray tracers apart from, say, the latest package, Animation Journeyman. As we've not had a look at this package, we can only suspend judgement for now, but the point is one the software producers ought to note. If ray tracing packages are going to be used mostly by professionals, they should cater more to the needs of a professional environment, and the one requirement they all moan about is speed of operation.

"Another thing", John continued, "you have to be able to output your 24-bit images to tape or they're no good to anyone".

And that's not possible with the Amiga?

"It's possible, but the only program I've seen which does it is Sympatica, and I found it a little over complicated and slow to transfer my stuff to tape. Luckily, I can do everything here through the existing system by transferring my Amiga images to the Paintbox".

What does he think of the Amiga's speed of rendering?

"I wish I had the 50MHz card, but the 25MHz is fine. I tend to restrict myself to images that'll render in not much more than twenty-five minutes per frame. Any longer than that and it's not worth it when you're trying to work on something".

And the verdict?

It appears that an increasing number of professional users are recognising in the Amiga a 24-bit graphics machine which produces broadcast quality images for a fraction of the cost of the market-leading systems.

In the hardware department the machine can hardly be faulted once fitted with a 24-bit board such as Harlequin or the VD2001, and a processor accelerator to reduce rendering times. On the software front, developers still have some way to catch up.

It is a very encouraging sign that professional broadcasters such as Leslie Mitchell and the BBC, and video professionals like John Butler are using the Amiga side-by-side with extremely expensive high-end equipment. It is all the more heartening to note that the machine is not only holding its own, but showing up some weaknesses in the professional gear.

At any rate, the entire video industry is now aware that the Amiga has a great deal of potential in this field.It is, as American magazine *Videography* proclaimed in its April 1991 special report on the Amiga, "the video natural".



Harnessed power

One obvious natural advantage John enjoys over the average Amiga user is the Quantel Paintbox squatting ominously in the corner of the room.

There is, however, one huge area in which Paintbox is deficient – it is purely a 2D paint system and cannot generate 3D images or produce the sort of ray-tracings we have come to accept as commonplace on the Amiga. John, therefore, uses his Amiga and Impulse Software's Imagine ray tracing package to produce all of his renderings.

The Amiga 24-bit images, which he displays in their Amiga stage using the Harlequin card, are then transferred as RGB files to the Paintbox for the addition of titles, backgrounds and perhaps the odd bit of retouching. The results are positively stunning.



A shot of John's Zodiac animation © John Butler 1991

Professional output

Boosting the Amiga's graphics output to a resolution of 910 by 576 from a palette of 16.7 million colours, 24-bit add-on boards will form the next graphics explosion on the Amiga. All new graphics peripherals aim to produce this standard, from the Ham-E board's halfway house, to the delectable – and as yet NTSC-only – Video Toaster.

The first commercially available 24-bit board in Britain, Harlequin, is rather expensive in terms of most Amiga peripherals. When you do a few quick sums, however, it rapidly becomes clear how cost-effective a Harlequin-equipped A2000 can be.

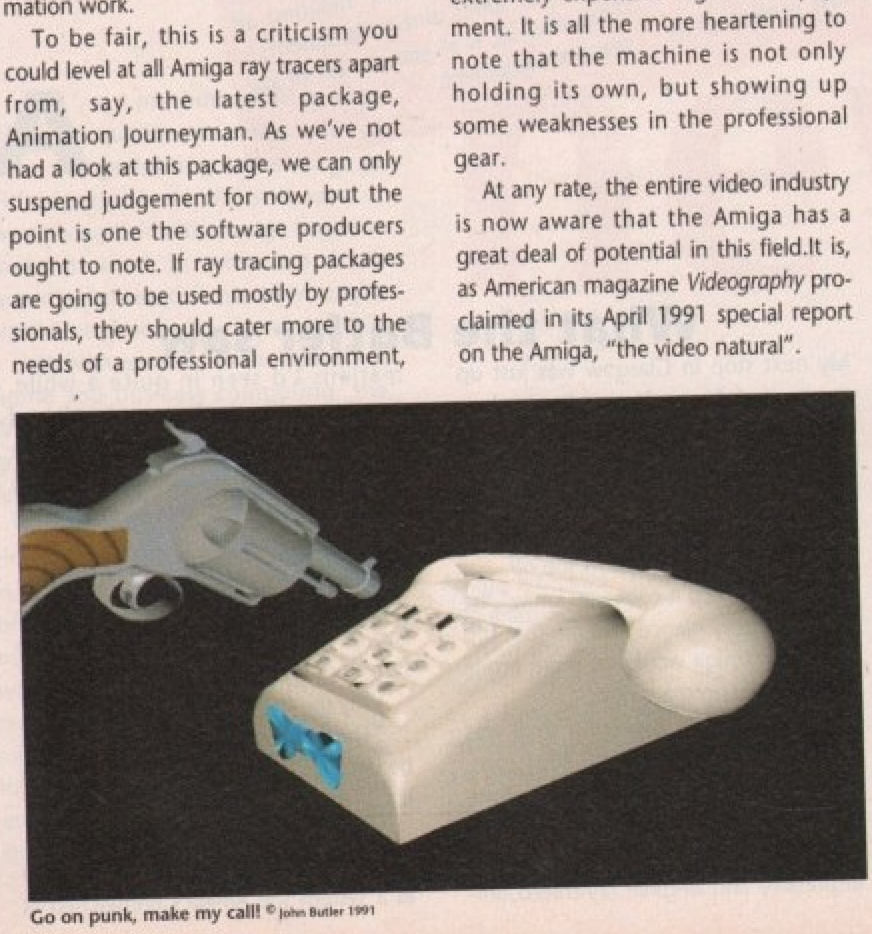
The 8Mb ram A2000 used in *Catchword's* filming was running a Harlequin card and GVP 3001 accelerator card, pulling images in from an 80Mb hard drive.

So although the setup is an expensive one from the average Amiga owner's point of view, it is positively bargain basement from the corporate angle. For a few wads short of £5000, the video producer can set up a system capable of simultaneous 24-bit image generation, animation, and titling (character generation).

All these functions are already covered by Paintbox and the like, but no single system can do them all. The Amiga needs only a good 24-bit painting program to become the ideal answer to the video producer's budget dream.

The choice in hardware is beginning to broaden. G2 now distributes the Austrian 24-bit VD2001 board, a more or less direct competitor for Harlequin. The VD2001, though not designed for the very high resolution images you can get from a Harlequin, is cheaper and faster as it renders to a lower screen resolution.

The advent of the pseudo-24-bit boards like HAM-E and the DCTV card now offers the hobbyist the chance to sample the delights of this revolution in Amiga graphics without forking out more than £500, so the home 24-bit market also looks set to blossom.

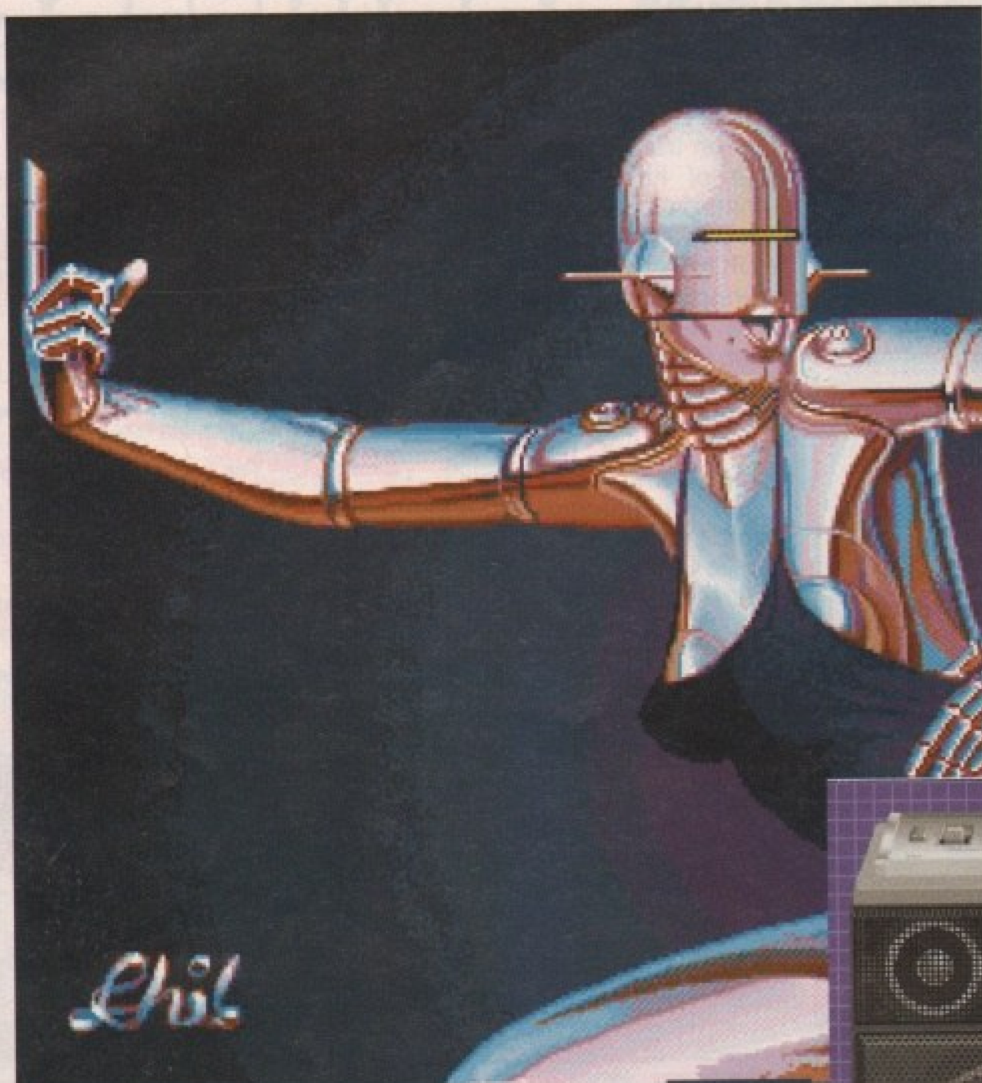


Go on punk, make my call! © John Butler 1991

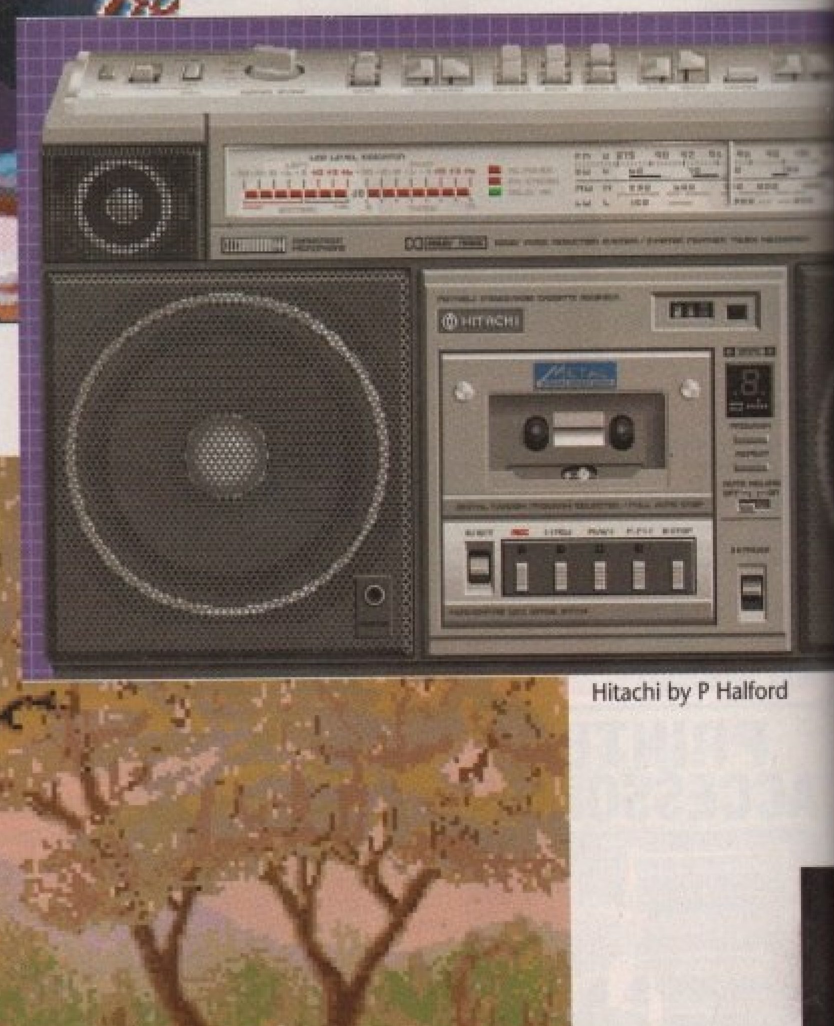
the Gallery

Once again the Amigan community meets the artistic challenge with a spectacular display of computer art at its best. This month, as always, a full colour, print-quality chromalin image mounted in its very own stylish frame is winging its way to the eager winner.

So if you're hankering for artistic adventure it's time to put mouse to mat and get those floppies flying in. Who knows, next month you could be the winner in *Amiga Computing's* regular graphics extravaganza!



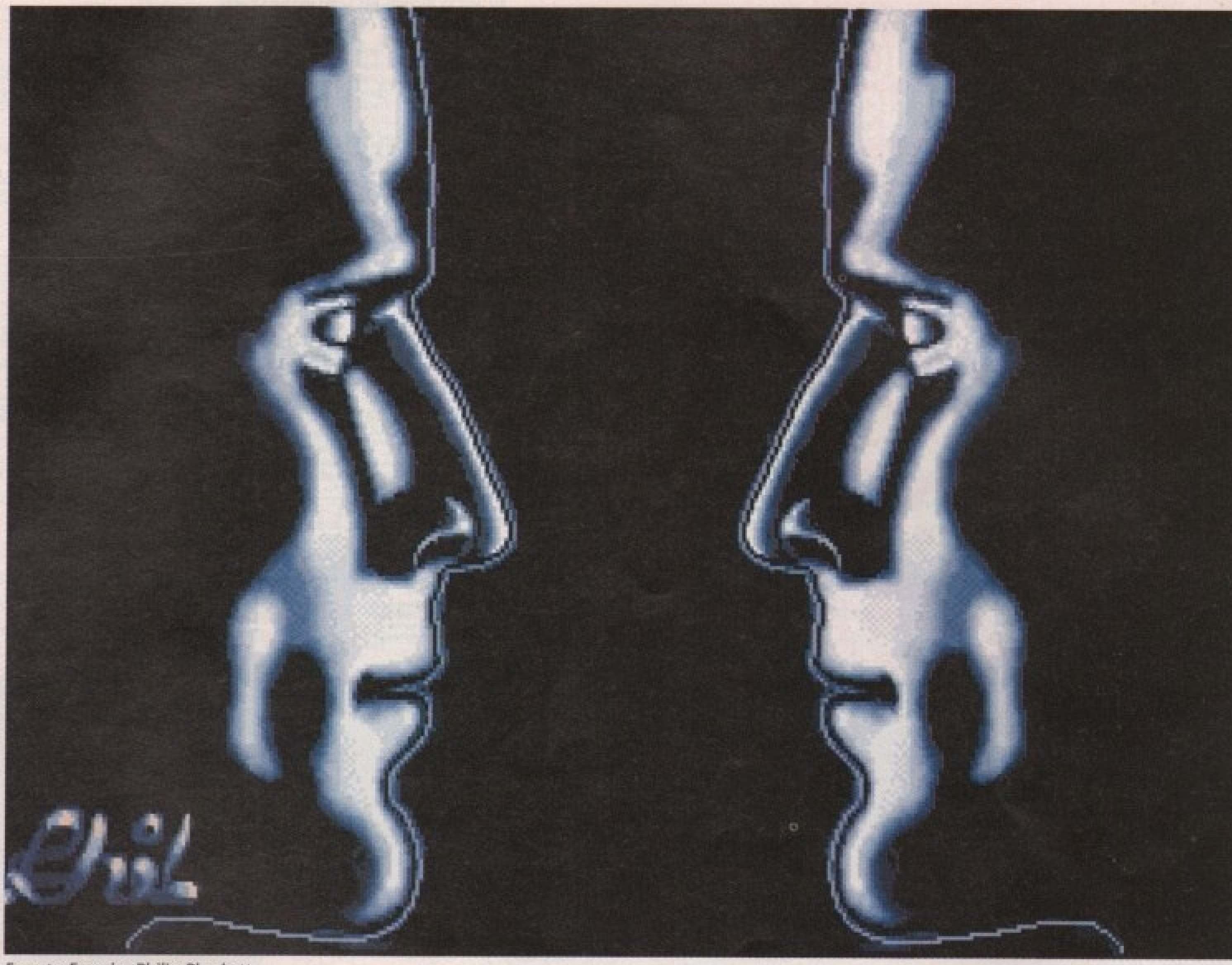
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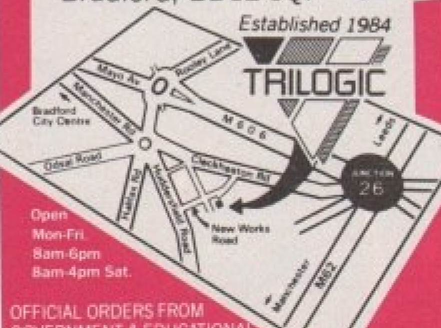
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Amiga amplified

Friends, Amigans, countrymen, lend me your ears! Explore the alternative sound of the Amiga with musical maestro Paul Austin

If you're an A500 owner waiting to throw away the modulator, or perhaps the keeper of an ageing 1084, a monitor upgrade may well be the easiest way to upgrade not only the sound but also the image.

The 1084-s is the stereo alternative to its familiar monophonic predecessor. It's a rather strange quirk of fate that the ultimate stereo machine was launched with a mono monitor but thanks predominately to the 1084-s and the Philips CM8833-II, stereo is now the rule rather than exception for most Amiga users.

The choice between this particular duet will probably be a matter of aesthetics rather than acoustics as both monitors are very similar in the audio department.

The only minor point concerns the design of the CM8833-II which has its speakers placed at a slightly negative angle, and as a result the sound tends to travel backwards. To compensate you have to crank up the volume a little more with the CM8833-II than the 1084-s to achieve the same effect. This won't be a problem for either you or the monitor but anyone sitting alongside or behind you will probably wish they weren't.

Hi-Fi format

If the monitor isn't enough and mini speakers just don't make the necessary noise, the Hi-Fi could be the only option left. The first obstacle is to convince your friends and family that they actually want the theme tune to Lemmings blasting out at 30 watts per channel.

OK, if we assume you've talked them into it, the next step is to find a spare input on the back of your amplifier. For most people this shouldn't be a problem as there's usually a spare Aux, tuner, or Tape input ready and waiting.

If all your inputs are spoken for you could invest in a switch box which will share a single input between various sources. Those friendly folks at Tandy will be happy to supply you with a suitable switch box but if you're particularly short on cash you could resort to using the mic inputs on your tape deck. This particular option, although cheaper, still requires two female phono-to-1/4in jack connecters.

Armed with the above and a reasonable length of twin male-to-male phono cable you're ready to sneak the sound through the tape deck and out of the speakers.

First, plug one end of your phono cable into the audio out sockets on the Amiga. Next, connect the jack plug converters to the phono cable and plug into the mic input sockets on your tape deck. To hear the output from the Amiga place a blank or unwanted tape into the deck and hit Pause and Record, but make sure the mic input level is set to zero.

Now set the amplifier volume to approximately a third and slowly increase the volume on the mic inputs.



At this point the sound should come flooding through the speakers.

You may need to adjust between the two to get the best mix and avoid distortion but be careful and always remember to set the mic inputs to zero initially, the reason being that the output from the Amiga is quite high and could damage the tape deck or speakers if it's let loose at full volume from the offset.

'Anyone sitting alongside or behind you will probably wish they weren't'

ZY-FI

The ZY-FI amp and speaker is the latest name to be heard in the world of amplification. It's essentially a simple system which consists of two units, one of which contains the built-in amplifier, volume control and off/on switch, and the other which holds the second set of twin speakers.

It has no frills and added extras – just good quality sound at a very reasonable price. The speakers can be powered by either mains or battery but, as with all the systems, a mains adapter is supplied as standard.

The single volume control means there's none of the fiddling around associated with some of the other systems, but as a result you are stuck with a straight 50/50 split between the speakers.

The sound quality is easily on a par with Soundblaster although it doesn't match up for power, and if you like the noise level to be hovering around the unbearable, the ZY-FI option might be a touch underpowered. Even so, I doubt most people will ever reach maximum.

I must admit that the ZY-FI doesn't seem to be the most sturdy system on the market – it ranks alongside Soundblaster in that particular department – but after several knocks my particular set of speakers seem perfectly healthy, so I suppose appearances can be deceptive.

ZY-FI
Sound quality
Design
Value for money
Overall

Price: 39.95
Watts per channel: 5
Available from:
Evesham Micros on 0386 765500

Soundblaster

The Soundblaster system consists of a pair of three-way speakers and a central box which houses the volume controls speaker connections and the inputs for the headphones which, unlike all the other units in the system, are supplied.

The speakers themselves come direct from the rear window of a car but look quite attractive – as long as you don't look too closely at the references to motoring which are still scrawled on them.

The sound quality isn't bad, with only the occasional hiccup due to the over-enthusiastic amp which sometimes distorts the signal at high volumes. Having said that, it's unlikely you'll want to go to the limits of the system. It may not be Hi-Fi quality but it's certainly loud.

Like the Roland MA-12C, volume is adjusted separately for each speaker. This is inconvenient but is nothing compared to the controls themselves which rotate in the opposite direction to the norm. For example, if they're turned to the right the volume goes down and vice versa. Very strange.

As for the headphones, it was pleasant to see some extras thrown in with the system. The headphones themselves are rather cheap and cheerful but work reasonably well.

Unfortunately, the badly designed control unit let the system down once again. Let's say you decide to keep the noise down by using the headphones – you would first have to remove the speaker connections, otherwise the sound would blare out of both the speakers and the headphones simultaneously.

An automatic speaker cut-out isn't a tricky problem for the average sparky, so why include one? Although the system looks reasonable and indeed has great potential given some redesign, it could be much better and at the moment it's being let down by a few silly design flaws.

Soundblaster
Sound quality
Design
Value for money
Overall

Price: £52.99
Watts per channel: 5
Available from:
Siren Software on 061-724 7572

The Roland option

If money is no object and you simply must have the best set of mini speakers in the business, Roland's MA-12C micro monitors are hard to beat for both expense and performance.

These chunky little units weigh in at an impressive 5.5lb each, which is quite a feat considering they only stand 9in high. This rather disproportionate size-to-weight ratio is due to the incorporation of both speaker and amplifier within the same stylish unit.

Because of the individual design the only real moan concerns the need for separate adjustment of each speaker, whether that be simple volume adjustment or the optional bass and treble controls. It's perhaps a small price to pay for the quality but having to fiddle with each speaker individually can be a pain.

On the plus side, a pair of these little beauties would be more than happy handling all manner of inputs – whether they're generated from a computer, Hi-Fi, or instrument – and to emphasis the flexibility, three separate inputs are provided at the rear of each unit. Because of these extra inputs there's no need to be constantly swapping connections, but perhaps more importantly, all three inputs can be active at once, so you could have the Hi-Fi, a game and a Karaoke machine all blasting away at once if it takes your fancy.

A headphone socket is the only feature missing, and to be honest it is a bit of a problem if you're the sort of person who likes the odd late night session on the machine.

If it's sound quality you're after these are the ones to beat, but there are a few niggling points which no doubt restrict them in the main to serious Amiga-based musicians or wealthy enthusiasts.

Roland MA-12C
Sound quality
Design
Value for money
Overall

Price £116 each
Watts per channel: 12
Available from:
Roland on 0252 816181

A realistic alternative

Tandy have long been one of the giants of High Street electricals and as a result are strong favourites in the area of computer amplification. Their most popular package to date is a combination of the Minimus 3.5 range of speakers and their tried and tested SA-150 integrated amplifier.

Neither element is new to the market but they have become the ideal solution to many an Amiga's amplification problems. The amp has a wealth of features which include headphones, tone and balance controls and up to three inputs, plus an optional mono to stereo switch and a separate speaker in/out button.

The rear of the unit boasts a complete range of input and output options that include lines for a tape, phono and tuner. My only criticism is of the horrendous 1970s styling which does its best to ruin what is an excellent little amp,

The speakers, fortunately, are much more modern and pack a very considerable punch considering they're only the width of a standard Amiga floppy. The sound produced by the union is only equalled by Roland's MA-12C but as with most of Tandy's specialised hardware there's a fairly stiff price tag attached.

Multiple input is a great strength and can really expand the flexibility of the system. For example, when the last alien has bitten the big one a simple flick of a switch and you're over to some easy listening while you get down to the serious stuff.

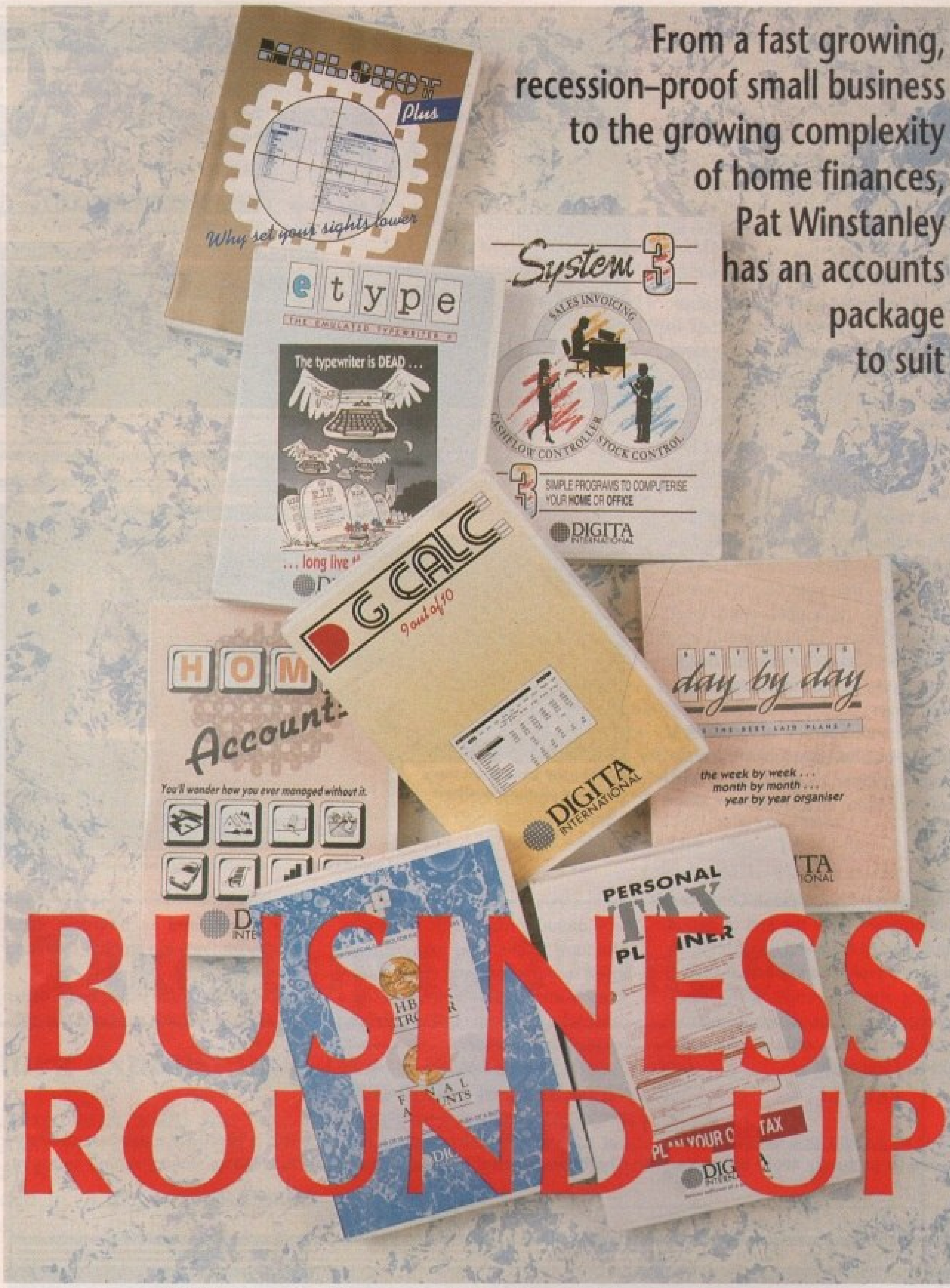
The Tandy system isn't the cheapest but it's by far the most flexible and if you want a little more than just extra volume it's the perfect choice – provided you don't mind people laughing at the completely tasteless styling.

Realistic SA150 & Minimus 3.5s
Sound quality
Design
Value for money
Overall

Price: Amplier £39.95 Speakers £29.90
Watts per channel: Speakers 15 Amplifier 25
Available from Tandy UK

BUSINESS ROUND-UP

From a fast growing, recession–proof small business to the growing complexity of home finances, Pat Winstanley has an accounts package to suit



Perhaps the first need of an expanding small business is an effective accounting system. While bound ledgers are fine for straightforward cash transactions, a double entry system becomes essential when credit sales and purchases are involved. Keeping track of debtors and creditors, and tying sales and purchase invoices to receipts and payments becomes a marathon within a very short time.

Any business which relies on repeat orders, from a small newsagent to a mail order dating agency, benefits greatly from a database. This type of program can be used to store the names and addresses of customers and, combined with a wordprocessor, provide effortless mass mailing for drumming up further sales.

Speaking of wordprocessors, there are three choices here, from the simpler type which produce plain text suitable for letters and invoices, to word publishers which are a cross between WP and DTP, or the desktop publishing (DTP) giants which can be used to produce artwork for advertising leaflets or fancy letterheads.

When it comes to soliciting funds the bank manager will need to see evidence of both past performance and future expectations. This is where a spreadsheet comes in handy. Using one makes creating budgets – cash flow forecasts – a far simpler matter since any "what if" queries, such as different price points, can be tested automatically.

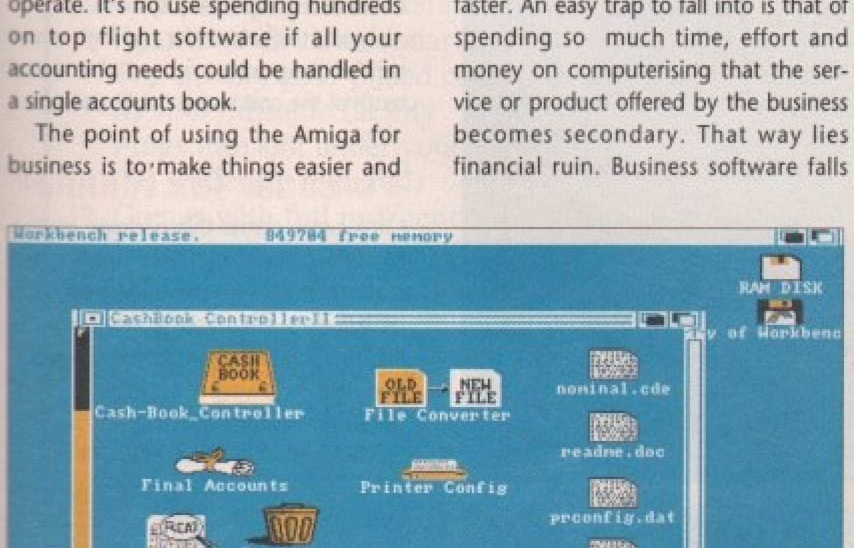
Spreadsheets can do far more than this – in fact the more expensive ones can be programmed to transform themselves into accounting packages, databases, invoice generators and so on. If you have some idea of programming principles a good quality spreadsheet might be virtually the only program you need.

Whatever your business needs there's a package somewhere for you – the difficulty is matching your needs with what you can afford and more importantly, what you can comfortably operate. It's no use spending hundreds on top flight software if all your accounting needs could be handled in a single accounts book.

The point of using the Amiga for business is to make things easier and faster. An easy trap to fall into is that of spending so much time, effort and money on computerising that the service or product offered by the business becomes secondary. That way lies financial ruin. Business software falls into several price categories ranging from public domain at a couple of pounds to top of the range packages costing hundreds. While cheaper programs are often very usable they tend to be limited in scope and suffer from lack of expandability as a business grows. On the other hand, top flight industry standard programs tend to be so crammed with features that a small business could never hope to expand enough to need all the bells and whistles.

For the Amiga owner wishing to use the machine to help with the running of household accounts, clubs or small businesses there is a need for something between the two extremes – programs which are capable of keeping up with changing business needs yet which don't demand an enormous investment of time to learn and operate successfully.

A good example of this type of product is the range produced by Digita. The programs are priced at around the £50 mark which is well within the affordable range for those who are just starting out.



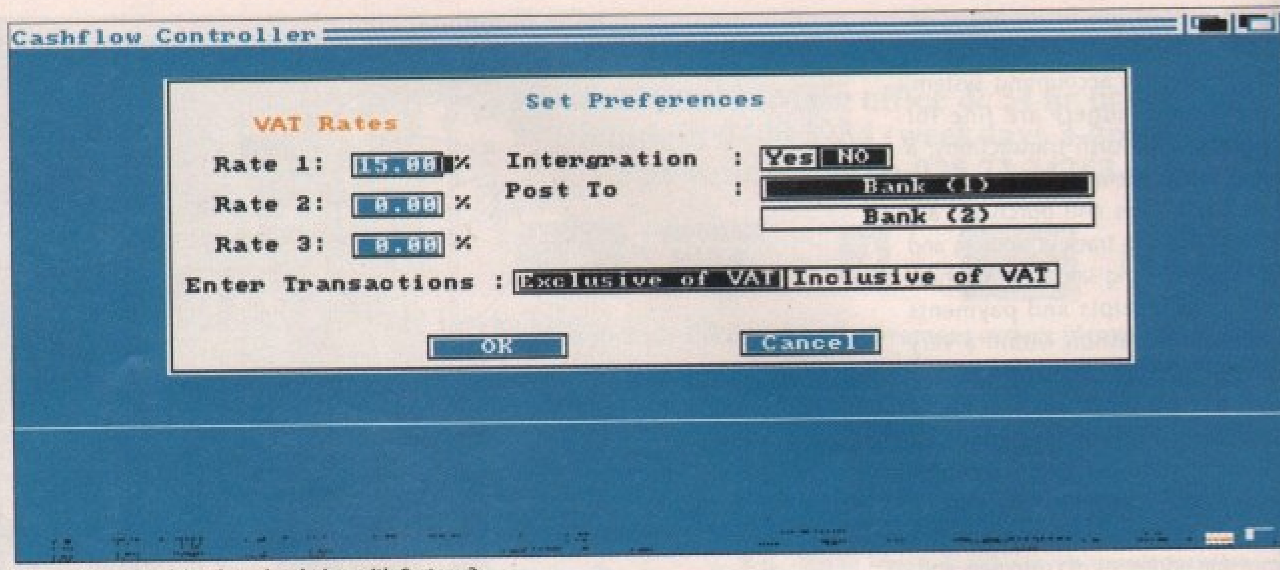
Cashbook Controller – full double entry accounting system

Cashbook Controller

This is a full double entry accounting system which copes with all types of transactions over a chosen period to produce a trial balance. VAT, that bugbear of business, is handled automatically and an audit trail helps to find out where postings have gone awry.

Overall, the program performs as specified but there are several gripes about quality. For the non-accountant, ➤

setting up the system will be very much a matter of groping in the dark. No sample files are included on the disk so the new user has nothing to follow in setting up the system and tailoring it to suit. Due to the error trapping and self-balancing of the system, data entry can be frustrating at times but on the whole the program does what it is supposed to do – if not efficiently then at least competently.



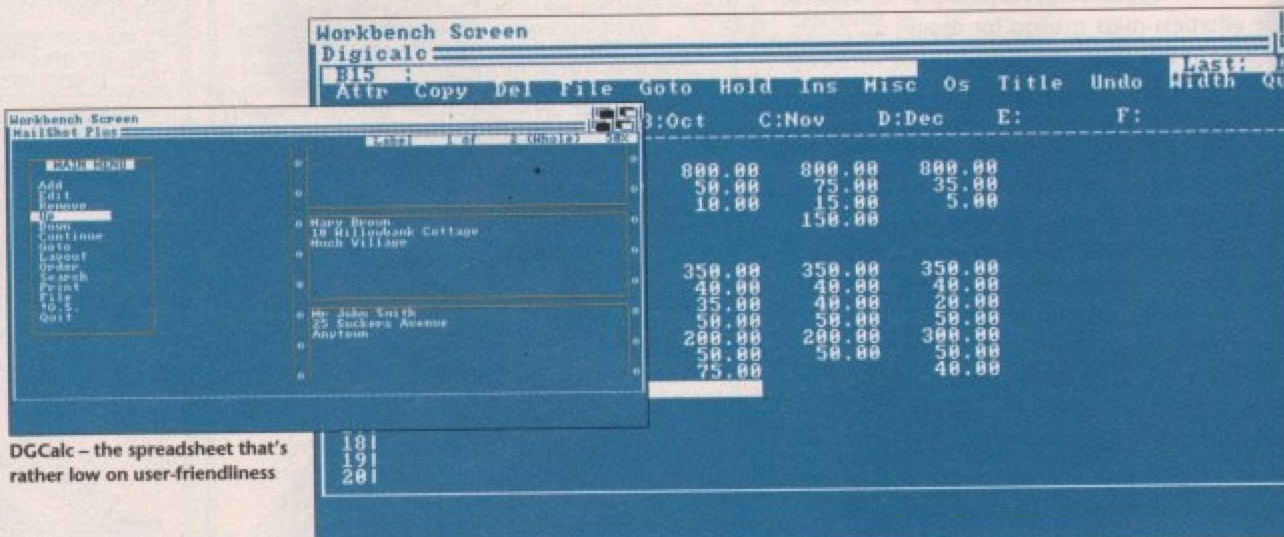
Keep tabs on stock levels and ordering with System 3

System 3

For the business which holds a large number of items of stock and needs to keep tabs on levels and ordering, System 3 provides a control module together with an invoice generator and a smaller version of the Cashflow Controller program.

All three sections can be integrated with each other, using the same data so eliminating the need to enter several times over. This suite of programs is intended for the business which does not necessarily wish to computerise completely but would welcome having some of the drudge of administration taken away.

An extended version of System 3 is also available which doubles the number of customer accounts, up to 250, and stock items, up to 2000.



DGCalc – the spreadsheet that's rather low on user-friendliness

Mailshot Plus – now everything you own can have a label, and mailing all your clients is easy too

Final Accounts

Integrating with Cashbook Controller, this program takes the end of period figures stored there and translates them to form a profit and loss account and a balance sheet. A Budget facility allows comparatives to be shown in the balance sheet notes with various ratios such as "acid test".

DGCalc

If you are looking for a spreadsheet this is one to positively avoid unless you have distinctly masochistic tendencies. Although I have used many spreadsheets over the years and expect a fairly steep learning curve when tackling a new package, this one had me grinding my teeth in frustration.

Setting up a simple screenshot for this article took well over an hour due to poor instructions, clumsy screen layout and controls which had me hopping backwards and forwards between the mouse and keyboard in utter despair of finding a smooth operating method.

For the price you would be far better off exploring what's around in the public domain.

Mailshot Plus

This is effectively a database dedicated to creating, storing, sorting and printing labels. Although address labels are implied in the title it can be used for anything from labelling your video collection to producing individual prescription labels in a pharmacy.

New to this version of the program is the ability to integrate with other programs via Ascii files, a column/tabulated summary and four extra memo lines per label which can be searched and sorted.

The program appears to work well but once again there is an appalling interface which ignores the benefit of mouse control and makes for great irritation to anyone who is used to mouse/menu operation systems.

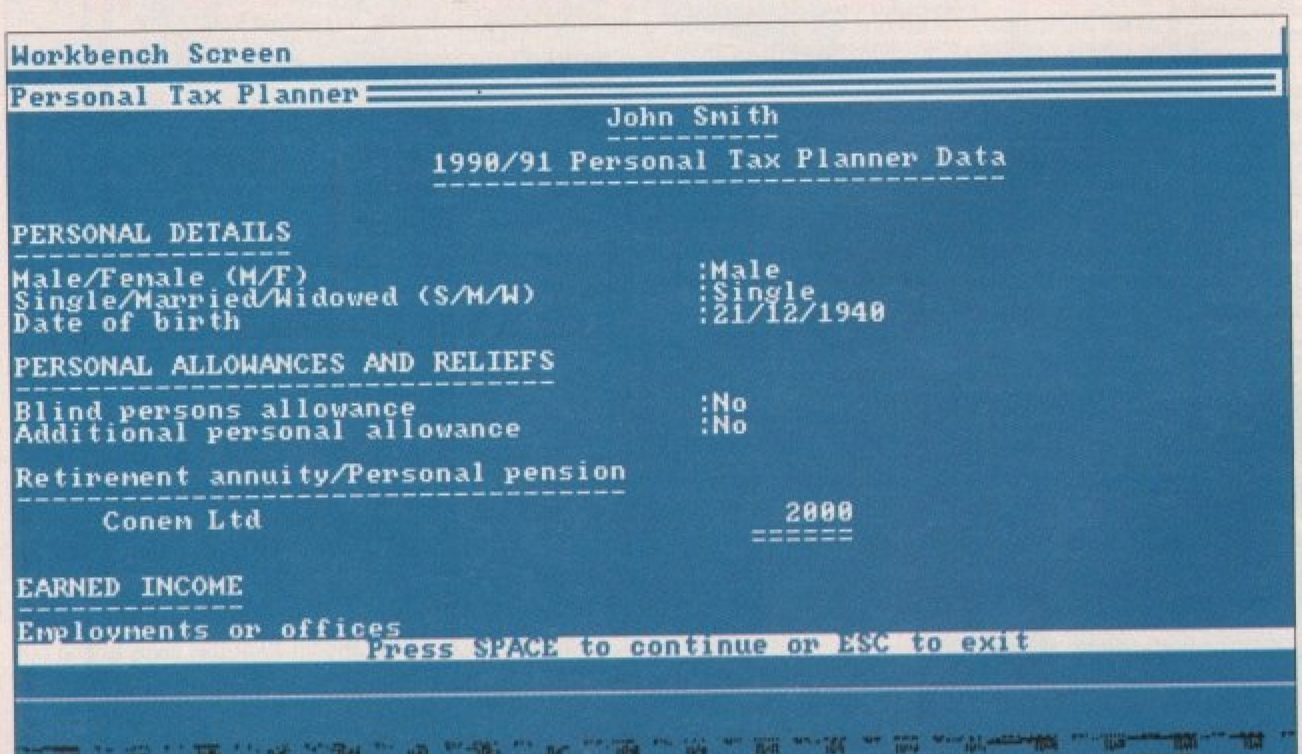
Again, the price is far too high when similar programs are available for a tenth of the cost in the public domain.

Personal Tax Planner

I first came across this package on the ST a few years ago and there is no material difference on the Amiga. It is intended to allow you to work out tax liabilities in the form of a full computation, and in its way it works well. There is also an element of "what if?" so that testing various election possibilities can help you plan ahead to – legally – minimise your tax liability.

The program works by asking a list of questions in a similar manner to those on your tax return.

Everything which might affect per-



Problems with the tax man? Work it out for yourself with Personal Tax Planner

sonal liability is covered including provision for splitting married couples and transfer of reliefs.

A major drawback of the program is that unless you have a pretty good idea of tax legislation you probably won't derive much benefit since a tax handbook will also be required – every year. Those who would benefit are accountants for rapid client computations and non-accountants with a modicum of tax knowledge and of tax affairs beyond simple PAYE.

A small snag is that the resulting printout is not acceptable to the Inland Revenue in place of your tax return – that you still have to fill in by hand.

Day By Day

Many of Digita's dedicated packages, such as Etype, have novelty value rather than practical applications. One which has both is Day By Day which is a diary/forward-planner.

The program allows forthcoming engagements to be entered into a database. As the relevant dates approach, or pass, noticeboards are presented on booting which show all overdue or urgent appointments.

Various categories of message can be defined such as domestic, business or leisure, and messages are grouped together under the relevant category.

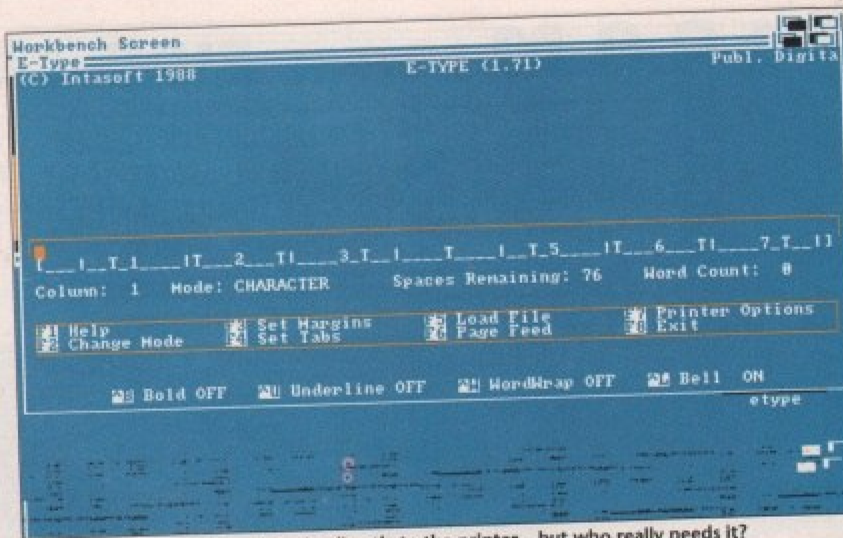
It's nice to see software which is practical, flexible – and above all from Digita, easy to use.

E Type

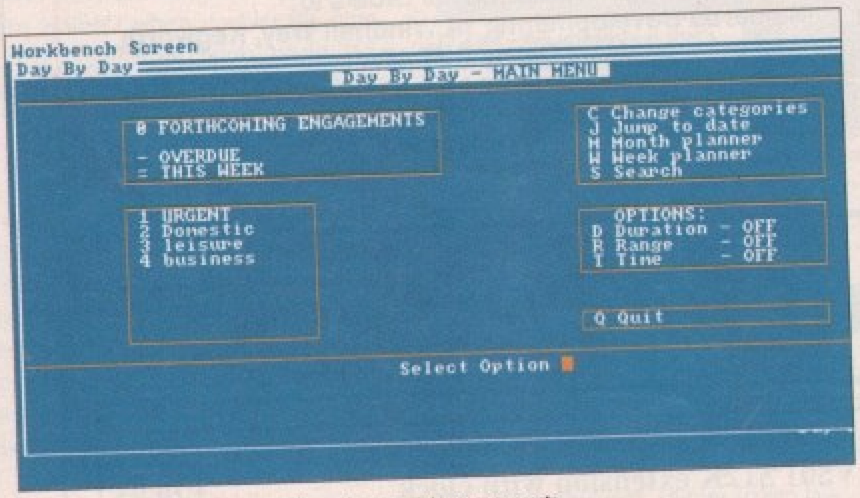
What can one say about a program which turns your wonderful Amiga into a typewriter? The rationale is supposed to be that sometimes you don't want the hassle of setting up a wordprocessor simply to produce a quick memo. What is apparently required is the ability to have keyboard strokes sent directly to the printer – but why?

The only halfway rational excuse put forward is that of filling in application forms which can be a little tricky for positioning type. But a wordprocessor can be set to print line by line, or even character by character, simply by working in small chunks of text.

Unfortunately Etype takes just as much time to set up as a standard WP and is far less flexible. Better to go for a low cost wordprocessor for the same sort of price – or even use Notepad from the Workbench disk!



E Type sends each keyboard stroke directly to the printer – but who really needs it?



Day By Day – novel and practical way to control engagements

Home Accounts

It's not just small businesses which benefit from ordered financial affairs. These days household finances can be just as complex with mortgages, credit cards, personal loans and overdrafts.

Home Accounts allows all types of transactions to be recorded, reconciled and compared with budgeted figures. The system covers cash and bank accounts, HP and credit cards and even facilities for food, electricity and so on.

The system is simple to use and offers a good range of reporting options. Regular transactions such as standing orders may be entered and will automatically be updated by the system, saving the bother of re-entering them every month.

This is one of Digita's better packages and is suitable for household, clubs, small business – in fact, anything where keeping track of money is considered essential.

SUMMARY

Aimed at beginners, the Digita programs offer far fewer features than their bigger brothers. The reasoning behind this is that beginners don't need distraction while coming to grips with a package.

Most of the programs are menu driven and use a curious mixture of keyboard and mouse control, sometimes mixed in a single command.

The programs were originally designed for other computers, and during conversion the quirks of the other machines were carried over too. This is a great shame as many of the features which make the Amiga so easy to use, such as pull-down menus and multiple windows, are completely ignored in some of the packages.

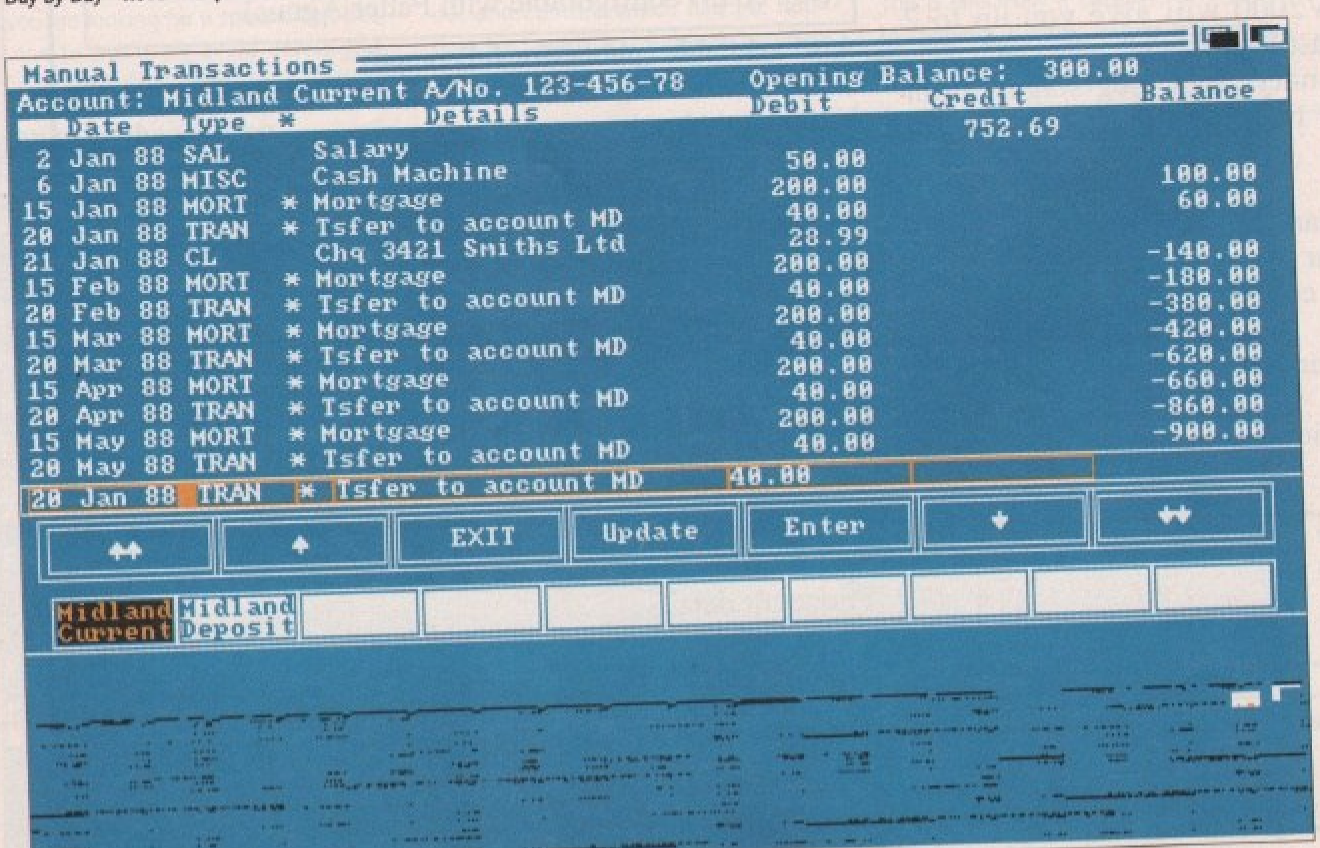
Although Digita's manuals have improved over the past few years and now talk about the programs more than backing up disks, the major point to let the range down is the lack of sample files.

Pre-entered data on disk is essential for beginners who have probably never even seen this type of program before. It is so much easier to see how a program operates by fiddling around with sample figures that this omission tends to negate the intended user-friendliness of the packages.

PRICE LIST

SYSTEM 3	£49.95
SYSTEM 3E	£69.95
Upgrade	£20.00
ETYPE	£39.95
PERSONAL TAX PLANNER	£39.95
CASHBOOK CONTROLLER	£49.95
FINAL ACCOUNTS	£29.95
Combined pack	£69.95
HOME ACCOUNTS	£29.95
MAILSHOT Plus	£49.95
DGCALC	£39.95
DAY BY DAY	£29.95

All the above products are available from:
Digita International Ltd, Black Horse House, Exmouth, EX8 1JL. Tel: 0395 270 273



Shock yourself by discovering the true state of your household finances with Home Accounts

In the beginning is the word – well, not quite. Before finger is put to wordprocessor, the desktop publisher should consider a few issues.

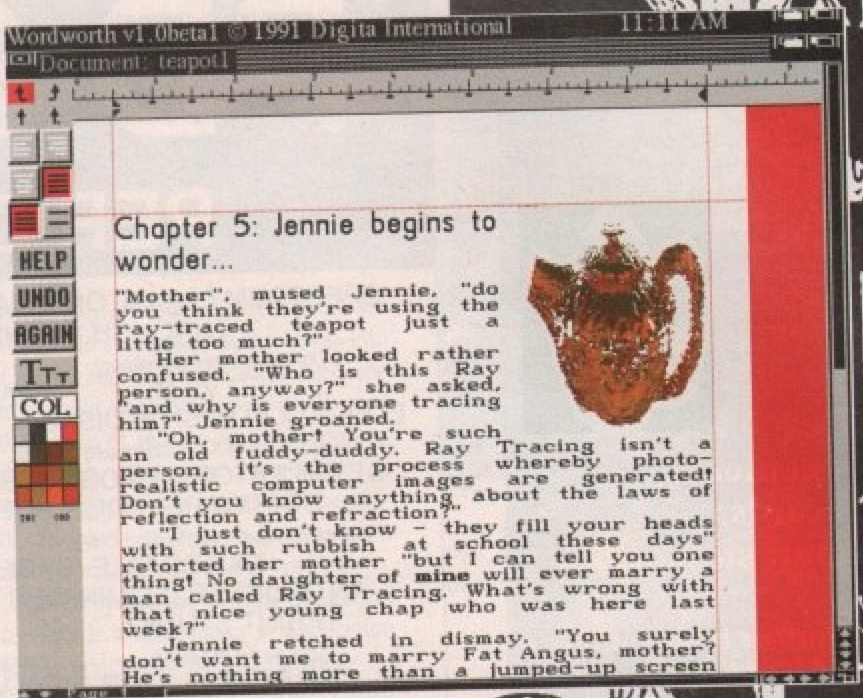
First it is important to have an idea of what you want to produce. Is it to be a catalogue, newsletter or pamphlet? The next consideration is why it is to be produced. Is it to increase sales, simply to convey information or just for the hell of it?

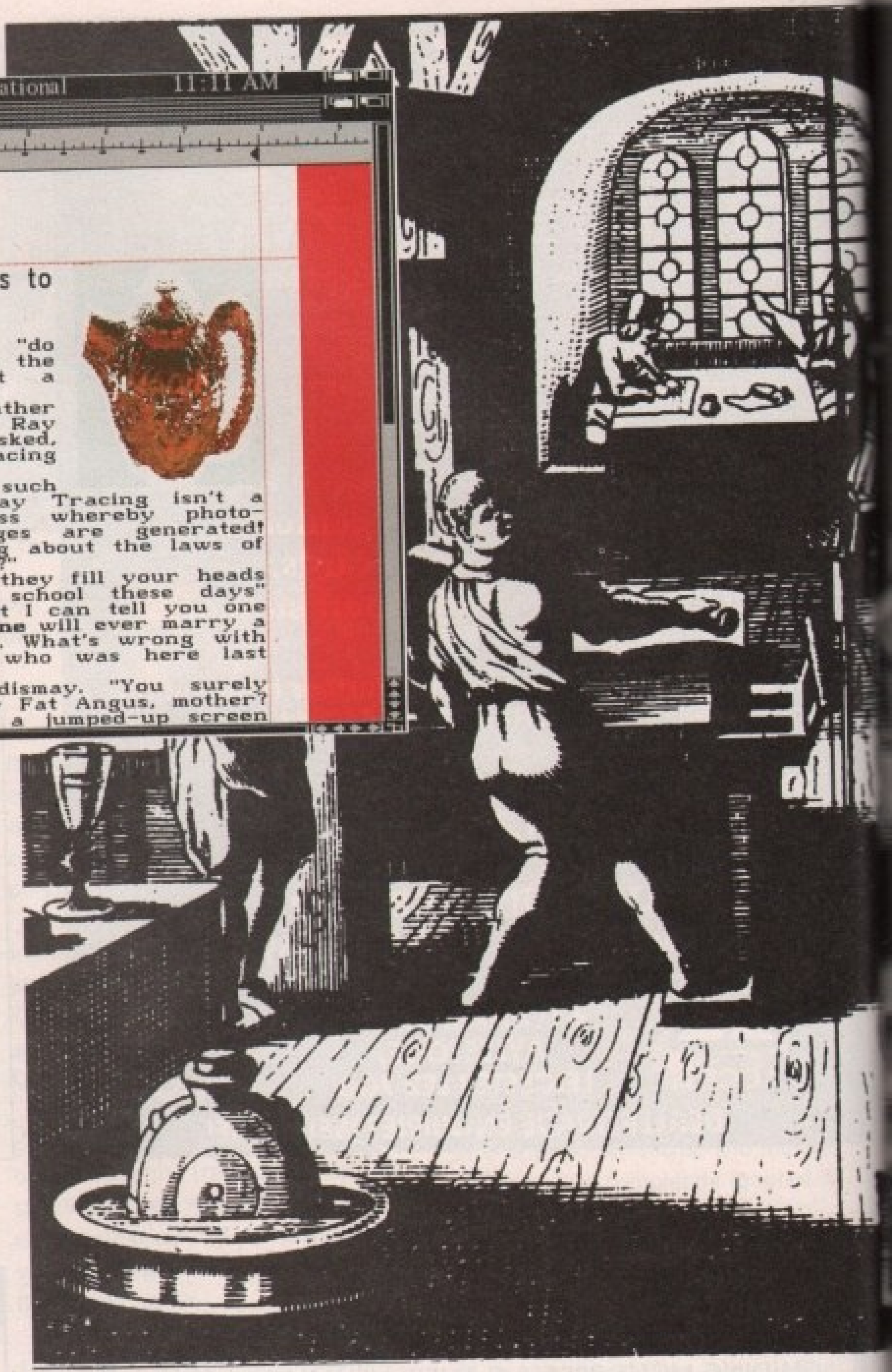
And finally is it appropriate for DTP? That's heresy, surely, to suggest that DTP is not the only way, that there might be life left in the messy old-style jobbing typesetter yet?

Yet it can be the better choice at times. There are certain applications for which DTP is unsuitable, either because the cost of hardware and software is prohibitive to the user who needs it only occasionally – for instance, if you want to mask pictures through text it's better left to a conventional reprographics house – or because DTP software can't cope with unusual requirements such as foreign-language setting, unusual page shapes, and so on.

For all that, in the run of the mill there's little that DTP can't cope with today. We're talking true DTP, *desktop* publishing, as opposed to the so-called "DTP" systems found at newspapers and large typesetters, which run into tens of thousands of pounds.

And despite Apple Macintosh/IBM PC propaganda to the contrary, we're talking Amiga.





First the words

OK, so just after the beginning is the word, and the DTP process really begins in the wordprocessor. The choice of wordprocessor, and the way you use it, can make the difference between a swift, easy DTP session and a nightmare of pointing and clicking.

Is it compatible with the DTP software? All DTP packages can import text in the Ascii (American Standard Code for Information Interchange) format, but as quite a few schoolboys now know, Ascii text is just that: pure text, without type styles, indents, and so on.

If possible, it's better to find a DTP package which can cope with text in your wordprocessor's own native format. For instance, WordPerfect is supported by both Professional Page and PageStream, and ProWrite by the latter.

If the compatibility is true, typographic formatting applied in the wordprocessor will be carried over on to the DTP page. We haven't had a chance to test every possible combination of DTP software and wordprocessor, so take along a text disk to the shop if possible and have a go.

Why not save a little cash and write straight on to the DTP page? There is only one advantage to this, which is that you can see how close you are to filling the page. There is the possible saving too, but the vast majority of serious Amiga users will have a wordprocessor already.

The disadvantages, however, are legion. For a start, wordprocessors are designed to do just that, and their interface has writing rather than page design in mind, so you might as well use the appropriate tool for the job.

Moreover, screen update in a wordprocessor is generally a lot quicker than in a DTP package, particularly if the latter is making a laborious attempt at WYSIWYG (What You See on the screen is What You Get on the page). There's little more irritating than having the natural flow of words ... interrupted ... while ... the ... processor ... tries ... to ... render ... fonts.

There's also a security advantage. If text is typed straight into the DTP page and that file gets corrupted – or the text is accidentally deleted – all is lost. Use a wordprocessor, and at least there's a backup, for in most kinds of publishing it's the writing, not the page layout, which takes the most time.

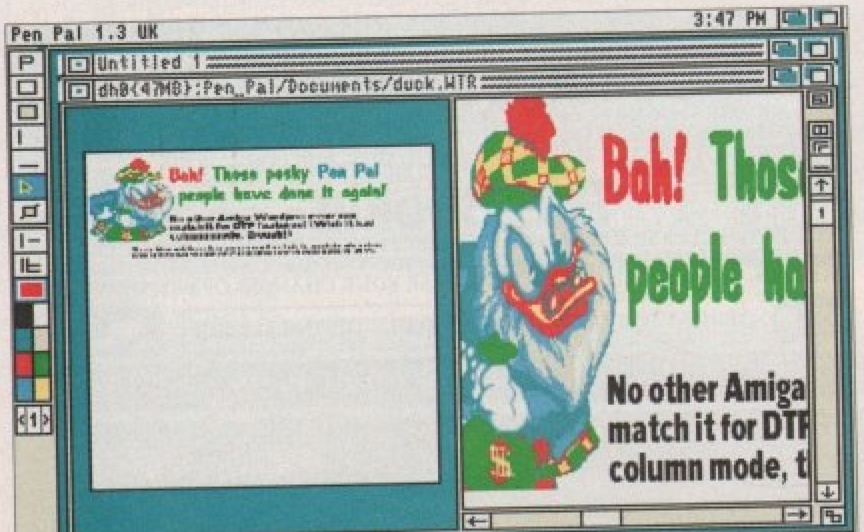
All this assumes that the text is originated on an Amiga. If it's coming from people with other models of computer you may need special software, such as IBM PC emulation, to read their files. In these cases you will normally end up with Ascii, although some wordprocessors use the same native file formats across different platforms.

If the text is typed, it's worth considering optical character recognition (OCR). An OCR system consists of a flatbed or handheld scanner and software. The scanner reads the typed text as an image, and the software tries to find letterforms in the image and turn them into a text file.

Early OCR systems had to be "taught" the characteristics of each typeface by being fed with a sample of its full character set but more modern software is intelligent OCR, which "knows" general principles about letterforms. For instance, a straight vertical line with two closed arcs on the right is probably a capital B.

OCR has not really taken off on the Amiga, and is a wasteful investment unless you're dealing with seriously large quantities of text. However, it is provided as a service by many DTP bureaux. But it's still best to have your writers work on an Amiga: not only can

> *A picture is worth a thousand words although illustrators would hotly dispute that their salaries reflect this*



Wordprocessors such as PenPal (above) and Wordworth (top) have blurred the distinctions between word-crunching and publishing



The publishing game

Barnaby Page gives a few expert pointers on what you need to set up your own desktop publishing empire

they set some type specifications at writing time if the wordprocessor is compatible with the DTP software, but you avoid the single biggest cost of conventional typesetting, which is paying some poor keyboard jockey to enter the text.

Then the pictures

They keep on telling us a picture is worth a thousand words, although most illustrators would hotly dispute that their salary cheques reflect this. Some publications – those which are purely informational, such as price lists or telephone directories – can get away without pictures, but most will benefit from a few illustrations, whether they help to explain the copy or are merely there to break up otherwise monotonous pages of text.

The bad news is that bringing illustrations into a DTP system is always harder than bringing in words. Given that you need pictures, there are three options: scan 'em in, draw your own on the Amiga, or use clip art. In a few specialised types of publication, a frame-grabber can also be used to grab video or television images.

Desktop scanning is an increasingly popular option, and has decreased steadily in price over the past three years, with the cheapest handheld scanners coming in at around £150-£200 – depending on whether you go for the manufacturer's recommended retail price or a cut-rate box-shifter, whether you can get the VAT back through an accounting dodge, and so on.

Further up the scale come flatbed scanners, with which the artwork to be scanned is placed on a glass screen, a little like a photocopier. A decent monochrome flatbed scanner should set you back around £1,000, with colour scanners costing more still.

The advantage of the flatbed scanner is that it is quicker and more reliable than messing around with a wobbly handheld, and will often offer better resolution than the 300-400dpi found on most handhelds. On the down side, flatbeds are limited by their nature to scanning material below a particular size, usually about A4.

Colour flatbed scanners can cost between £1,000-£2,000 and the earth, and remember that they cannot handle transparencies. Special transparency scanners are the province of professional reprographics, and indeed with any kind of colour scanning it can be best to go to a bureau: colour is nightmarishly complex to get right, a subject that makes page layout seem like child's play.

Most DTP bureaux are oriented to the Apple Macintosh and IBM PC, but a few are sympathetic to Amiga users.

There's a lot of fuss made about scanner resolution, but before buying one of these input devices consider your output device. There is little point in scanning an image at 1,200dpi if it's going to be output on a 9-pin dot matrix printer – you're throwing away money and time, and creating huge image files in which most of the detail will be wasted.

Keep it simple

Creating pictures in an Amiga art package is a far simpler, and cheaper, alternative. One advantage here is that computer-created images, particularly when they're vector rather than bitmap-based, will make the best use of your printer.

There is none of the compromise found in trying to recreate a continuous-tone scanned photograph in thousands of discrete dots. All output devices, even the top-end imagesetters used by colour magazines, are ultimately dot-based, it's just a question of how close together the dots are, creating the illusion of continuous tone. *Amiga Computing's* DTP Almanac column looked at this in a recent issue.

As with wordprocessors, check file-format compatibility here. A good ➤



You don't have to be an artist to import clip art!

DTP package will be able to import a wide range of image formats, including EPS (Encapsulated PostScript, IFF (Image File Format), IMG, ProDraw and so on, but with cheaper DTP software you will occasionally find that certain attributes of the picture – graduated tints, for instance – are lost in the import process.

The disadvantages of the computer-generated route are twofold. First, you have to know how to use the art packages, which is rarely as easy as it sounds, or know a man who does. There's a danger that you'll end up spending a disproportionate amount of time trying to create a small diagram for page 19 rather than writing and designing the publication.

The other problem is that computer-generated art always looks, well, sort of computer-generated. Curves that are too perfect, flesh tones that would be rejected by any butcher, text around circles: these things are the giveaways.

If your publication is about the Amiga, pictures that are obviously computer-generated may be a good thing, but they're unlikely to go down so well in a newsletter for aficionados of medieval churches.

Clip art – ready-made pictures on disk – solves the first problem and can often help with the second. Most clip art was created on the Amiga, although you do get a few scanned images, but it's often done by the very best artists, who know how to get realistic results out of the software when they want to.

Most clip art is public domain and distributed by mail order, which means you don't pay much for it and can copy it from someone else's collection if you like. It's best to go for a clip art collection dedicated to a particular subject – maps, anatomy, computing, whatever – as it's here that you're most likely to find the picture that's just right.

Many of the more general packages



Adding colour is an easier job on the Amiga than on many other machines

are geared toward wedding invitations, party invitations and the like – where *are* all these Amiga parties, we'd like to know? – and are frequently American-oriented, so you'll find plenty of Stars and Stripes but precious few Union Jacks in them.

And on to the page

You have the words, you have the pictures: page design is where they come together and a publication is brought to life. It's also here, of course, that the DTP package finally gets taken out of the box.

For very simple jobs you might also consider PageSetter or even a high-end wordprocessor. The better ones can set type in multiple-columns, place rules, offer a wide range of text sizes and so on.

And if you're seriously into proving that the Amiga is the equal of the Apple Macintosh and IBM PC, it may be worth talking to Advent Desktop Publishing about 3B2. This is a heavyweight publishing package with excellent typographic and colour features, which has already proved itself on the IBM PC and Unix platforms before moving to the Amiga this year. It will, of course, require a heavyweight Amiga for proper use.

But there are two main contenders in Amiga DTP: Professional Page (often called ProPage), available from Gold Disk, and PageStream from Soft-Logik.

DTP is, sadly, as involved in the "spec wars" as any other area of software. For instance, there's an unhealthy interest on the part of software houses, and reviewers, in rotated type, but how



All our pages start off like this

often do you really want to turn text through anything other than 90 or 360 degrees?

How often do you really want to view a page onscreen at 1500 per cent magnification? How often do you want to use text that's 183,000 points – that's 64 metres! – high? Yet those last two claims come from Soft-Logik in their marketing of PageStream.

What you do want is a sensible set of features – not too many or the software takes too long to learn – and ease of use, which can only be determined by a test drive. The features to look for depend on the requirements of your publication and those which you can imagine wanting to do in the future.

DTP packages share many common features, such as multi-column text setting, variable text size, boxed text, text running around shapes, and so on. It is on the more obscure features that the choice must be made, and pre-eminent among these, I would argue, is support for as many different image file formats as possible.

Not only does this make importing illustrations easier, it also means that if in the future you want to create some text effect which the DTP software cannot manage, you can still produce it in an art package and bring it in.

A single DTP package which offers everything from wordprocessing to drawing to graphing is all very appealing, but it usually means that you're paying for features you don't want, and quite possibly wasting memory on them into the bargain: far better to establish a modular system, with each package doing what it's best at.

However, basic drawing tools within the DTP package are always handy, as well as simple cut/copy/paste wordprocessing facilities for headlines and last minute changes.

Choosing type

For most users, DTP is essentially about type. Extremes of type size are pretty useless – anything below about 5pt is illegible, and above about 500pt is too big for the average page. But flexibility of size within those limits is important and the ideal package should be able to change type size in increments of at least 0.25pt.

PageStream does it in 0.01pt increments, Professional Page in rather limiting 1pt increments. The same is true of leading, or interline spacing: adjustments of 0.25pt or 0.5pt are barely noticeable, yet over a long publication they can make the difference between fitting the copy and having to cut.

Beware, however, the temptation to chop and change within the publication. The average reader, shown an 8pt text sample and then an 8.5pt text sample, will say they're the same size, but put them next to each other and he or she may well notice the discrepancy.

All DTP packages include a few basic typefaces so you don't have to buy extras from day one, but a wide choice of fonts is a strong plus point. While designers will always advise you to use only a couple of faces in each publication, that doesn't mean you want the same ones in every document. And as you do more DTP work you'll start to have strong preferences even between two fonts which appear identical at first glance: Helvetica and News Gothic, for instance.

PageStream scores heavily here with its support for Adobe PostScript fonts, both Type 1 and Type 3. PostScript is a device-independent standard for fonts, and indeed for illustrations, in its EPS incarnation, which means that a PostScript font – say, 24pt Palatino – will print identically on any PostScript-compatible printer, whatever its manufacturer.

What's more, because PostScript fonts are based on vectors rather than



PageStream, here, and ProPage are the two main contenders in Amiga DTP

6pt 7pt 8pt 9pt 10pt 12pt 14pt 16pt 18pt 20pt 24pt

30pt 36pt 42pt 48pt 72pt

bitmaps, they can be scaled to any proportion without loss of quality. The difference between Type 1 and Type 3 fonts is noticeable only on higher-resolution printers: Type 1 fonts employ a technique called "hinting", in which the letterforms change slightly as the font changes in size. However, this actually creates an illusion of identical letterforms. The purpose of hinting is to compensate for differences in our perception of different sizes.

There are thousands of PostScript typefaces available, including foreign language sets, mathematical symbols and so on. While many of them are still available only on Apple Macintosh and IBM PC disks, we can expect to see more PostScript on the Amiga over the next year or two as the machine becomes accepted as a professional platform.

An investment in PostScript is an investment in the future – and they're not paying me to say that!

For any repeated publication, such as a newsletter, templates and master pages are a boon. But there's a lot of mystification surrounding the former term. Really, a template is just a page design which you save for reuse with new text, and any fool can create templates by saving the page design under a different name before flowing in the text.

Master pages are much more useful. In effect, they are multiple templates within a single document. For instance, in a 16-page newsletter you might have master pages for the front cover, complete with publication name, for the beginning of each editorial section, with the section heading, and for standard left-hand and right-hand pages, with the page numbers, date and so on on the appropriate sides.

The appropriate master page can then be applied to each page in the publication before you start the design of a particular issue. This saves time and keeps grids, headings and such constant.



Almost any colour is available using the four process colours

Process or spot?

The spec wars also rage on the battlefield of colour. Again, it's worth asking how much you really need, and the choice boils down to process colour versus spot colour.

Process colour is used in magazines such as *Amiga Computing* to create an almost infinite range of shades. This is done by mixing the printer's four basic colours – cyan (blueish), magenta (reddish), yellow and black, usually referred to as CMYK or YMCK. The K actually stands for "key", not "black" – not many people know that, or are interested.

Process colours are specified as percentages of each of the CMYK components. For instance, you might want to create a purple effect with 70 per cent cyan and 80 per cent magenta, expressed in print shorthand as 70C 80M.

Process colour is also essential for scanned colour photographs. However, you will need extra software to "separate" the photographs – that is, to analyse the C, M, Y and K content of each minute area – and a good deal of expertise in colour-correction, as desktop separation is rarely perfect.

So process colour puts the entire spectrum at your fingertips but the problem is that few colour computer printers know how to print it, and it's generally only used if you're outputting separations for press printing.

Additional problems arise with screen display. The Amiga screen creates colours out of red, green and blue (RGB), like a television set, and can only make an approximate translation of the CMYK process colour.

A far simpler alternative, particularly with dot-matrix printers, is spot colour. Here you just tell the DTP software that a certain area of the page is to be printed in colour A, the headline over there in colour B, and so on. The computer then tells the printer which ribbon to use. Neither computer nor printer knows or cares what the colour actually is.

Times
Helvetica
Optima
Stone Sans
Palatino
Futura
Avant Garde
Bookman

You will develop preferences for certain fonts

Both Professional Page and PageStream offer CMYK process colour and RGB colour. Professional Page also supports Pantones, which are special inks used by printers to create effects unavailable through CMYK, such as metallic gold. This is a great example of paying for a feature which you are highly unlikely to use.

Finally, check that your chosen DTP package, and your Amiga's memory, can cope with the number of pages your publication requires – it's frustrating to have to break it down into smaller jobs.

On to output

The page is only as good as its printing, and all your carefully-honed effects will come to naught if they're churned out on a rusty 9-pin dot matrix printer. So go for the best resolution you can afford, and seriously consider using one of the few Amiga DTP bureaux.

They will produce printer's film if you're going to end up with conventional press printing, or bromide, which is a positive photographic image on paper, at about 1200dpi for photocopying.

Remember also that you can increase the effective resolution by printing the publication larger than its final size, and then reducing it (effective resolution = printed resolution/reduction proportion).

But it is possible to indulge in overkill at the output stage. Text and line art will look almost as good on a 300dpi laser printer as on 1200dpi bromide, and if the toner on both machines is fresh a photocopied laser print looks almost as good as an original – it's a lot quicker too.

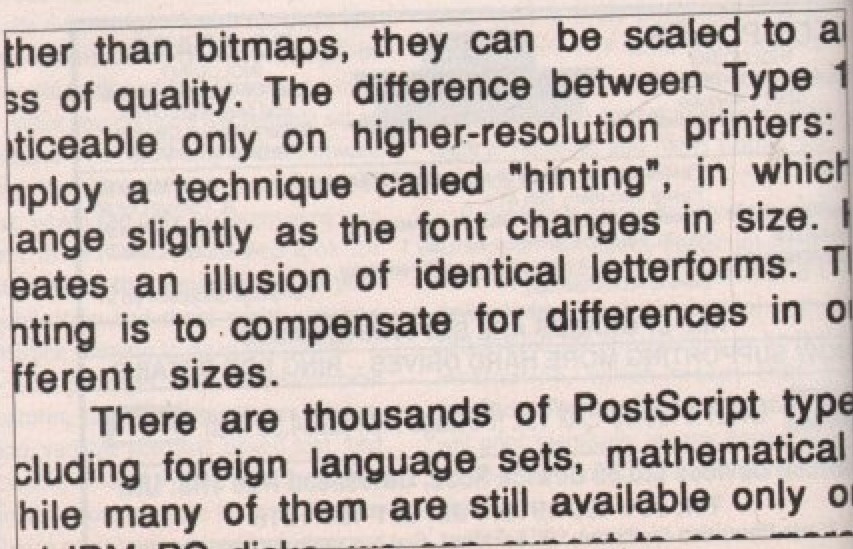
Many DTP users overlook paper and binding. The choice of paper is largely an aesthetic one – do you want to look glossy, or down-to-earth? – but paper absorbency is also an issue, as very absorbent paper may allow ink to spread slightly and spoil the definition of fine lines. On the other hand, on some glossy, non-absorbent materials the ink will smear in your hands.

For the majority of users binding will be down to that low-tech device the stapler. Remember to build some leeway into your page margins in case the staples are positioned a bit out, and that in very long publications the staples will move their effective position on the page as you get toward the centre of the book. Try folding a few hundred pieces of paper inside each other.

If you can afford it, ring binders or document holders from stationery shops are more elegant and reliable. And so binding, the last stage in the process, takes you right back to page design.

The path to successful DTP is not a difficult one, but every stage affects every other, and you have to consider the end before you even start. It's a bit like the song: the writer connects to the wordprocessor, and the wordprocessor connects to the DTP software, and the DTP software connects to the typeface, and the typeface connects to the printer, and the printer connects to the binding, and the binding connects to the reader... who, after all, is the object of the exercise.

Barnaby Page is editor of PrePress magazine and a consultant on newspaper DTP. He can be reached on CIX as "prepress" or "barney".


ther than bitmaps, they can be scaled to a
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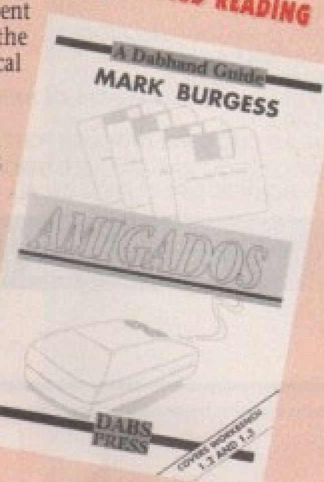
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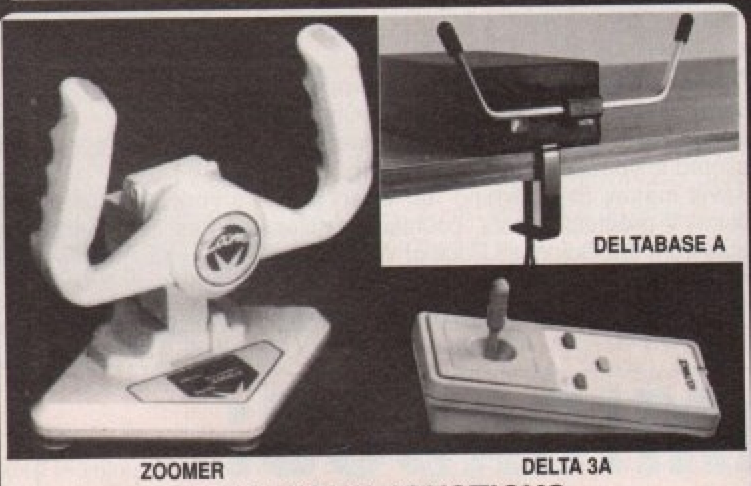
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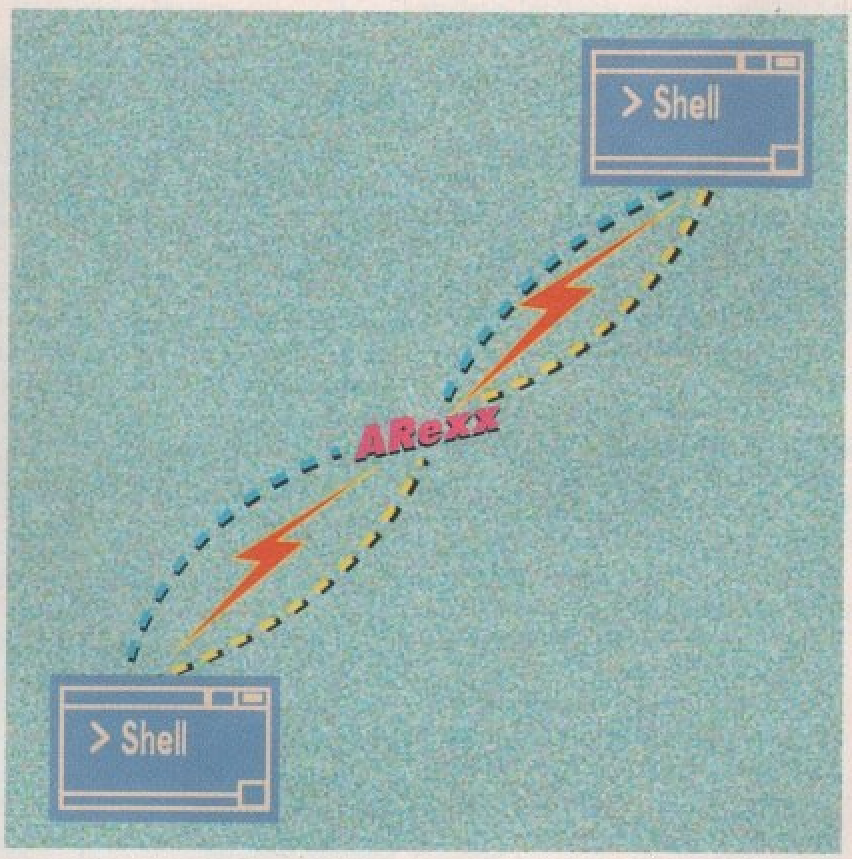
ARexx explained

ARexx is the Amiga version of the REXX programming language which was first described by a chap called M F Cowlishaw in a book called *The REXX Programming Language: A Practical Approach to Programming* **published by Prentice Hall in 1985.**

The Amiga implementation, which appeared around 1987, is by William S Hawes – the author of such programs as ConMan and WShell – and there is no doubt at all that he's done an excellent job.

With Commodore effectively endorsing ARexx by bundling it with WorkBench 2 on the A3000, it looks as though the language is set to further enhance the possibilities of a machine that even now is only just beginning to show its true potential.

It's rapidly becoming the Amiga buzzword for 1991. Paul Overaa unravels some of the mysteries of ARexx



Many new Amiga programs are hitting the streets with an ARexx tag, or a note to the effect that because they support the language, they can communicate with other ARexx-compatible programs. It's not too difficult to deduce that ARexx must have some connection with inter-program communications but, in fact, these sort of remarks sell it short because it has far more potential than this. It is, believe it or not, a computer language in its own right.

ARexx has a lot going for it so, before talking about the current communications interest, it's worth spending some time looking at the language itself. If nothing else, this will help to put some of the language's more unusual features into perspective.

ARexx is an interpreted language which supports a wide range of high level operations. It includes sophisticated tracing and debugging facilities and contains many other features of interest.

On the surface one might be forgiven for regarding an ARexx program as being similar to Basic. Certainly the range of high-level operations that are available do bear some comparison with Basic, but a more detailed examination of the language reveals unique characteristics which clearly show that ARexx has other goals in mind.

The use of ARexx falls into three reasonably distinct categories and these provide a convenient way to discuss the language. Firstly, because it provides easy links straight into AmigaDOS, it is both possible and profitable to use it as a command language.

ARexx programs can be used to replace the type of facilities which might otherwise be implemented using the macro type executable script files which AmigaDOS itself provides. ARexx is, however, capable of considerably more versatility in this area and yet, because it is small, it is an easy language to learn.

You create ARexx programs using ED or any similar text editor. This short example below asks the user for a program name and a device name, concatenates the answers to build a particular command string, and then transmits that string to the underlying AmigaDOS for additional processing:

```
/* A simple ARexx program */
say 'Please enter program name'
pull name
say 'Which device do you wish to search'
pull device
name='RAM:Findme ' device ' ' name
address command name
```

If the user had entered "testprogram" and "DF1:" the final command transmitted to AmigaDOS would have been this:

```
RAM:Findme DF1: testprogram
```

All the usual types of statements for flow control loops, if-then-else, case selection etc are included and it also supports all common string concatenation, arithmetic, logical and operand comparison operations. As well as supporting simple variables there are some interesting variations on indexed array storage.

ARexx is essentially "typeless" – variables do not have to be declared as such because operands are regarded as strings which are validated by virtue of the context in which they are used.

Its many sophisticated features will satisfy a second class of user – those who need, or would like to experiment with, a language capable of enhancing an already powerful multi-tasking operating system. It can provide a programmable interface, a potential prototyping tool, and a powerful set of high-level functions which can be used to create fully-fledged, independent, ARexx-based applications programs.

Highly specialized

The language supports the creation of procedures functions with their own symbol tables – in other words, their own local variables – but at the same time it allows selected areas of the calling routine's symbol table to be exposed. Thus it allows selected variables from the calling routine to become accessible to the function being called.

ARexx functions may be part of an ARexx program, part of a shared library, or even a separate program. It includes mechanisms which allow string expressions to be parsed, and by using a template control it is possible to extract selected sub-strings and assign them to chosen variables. It supports recursion and even offers "on the fly" expression analysis via an interpret instruction enabling an ARexx program to evaluate ARexx expressions dynamically.

Despite the fact that it is well suited ➤

for such purposes, the current interest in the language is not the result of its usefulness as a replacement command language. It stems from the fact that it provides built-in mechanisms to support inter-program communications – that is, it allows one program to exchange information with another. It is this third area of potential use which is causing the current excitement within the Amiga world.

Believe it or not a whole syntactic class is reserved for ARexx program statements which have no meaning to ARexx itself. When it finds such a statement it classes it as a command and assumes it is intended for another application. Such commands are transmitted via a special command interface to an external application that has previously announced its ability to receive such commands.

The application will interpret the command, perform the required operation, and then transmit a message back to the original program which enables it to determine whether or not the function was performed successfully. On the Amiga, all of this is achieved with the help of the underlying multi-tasking Exec message passing system.

The global communications and resource manager which ARexx uses is called the resident process and this must be active before any ARexx program or communications facilities can be used. Those of you lucky enough to have the A3000 with WorkBench 2 will doubtless have already seen the rexxmast command in the startup script. Among other things, this program sets up the REXX message port through which programs can communicate.

Most programs which support ARexx communications will look for the telltale presence of a public REXX port and, if it's not found, they'll usually start up the resident process themselves. Of course you don't need an A3000 to run ARexx but, until WorkBench 2 becomes generally available on the A500/A2000 machines and the like, non-A3000 users will definitely need to buy ARexx as a separate package.

This is not a bad idea anyway, even for A3000 users, because at present they still only get the ARexx core material: the rexxmast program, run time libraries, and a cut-down version of the original documentation. By buying ARexx separately you'll get the works: full ARexx documentation, all of the supporting header files, run time and link-time libraries, utilities, and lots of example programs.

Communications

How does all of this communications stuff work in practice? Here's an example which should make things clear. Bars & Pipes Professional includes an ARexx accessory program which receives commands addressed to "Bars&Pipes ARexx".

A range of commands have been implemented. LOCATE SMPTE hour.minute.second.frame, for instance, will set the sequencer to a specific SMPTE position. LOCATE CLOCK midiclock will do a similar "location" thing with a time point specified in Midi time clocks.

Don't get confused here. The commands I've just mentioned are NOT part of the ARexx language – the programmers of the Bars & Pipes package itself, Blue Ribbon Soundworks in this case, designed this part of the interface, ie they worked out the format of the commands which Bars & Pipes was going to recognize and did the necessary programming.

All you, the user, have to do is make sure that the commands which you send to Bars & Pipes fit the syntax which Blue Ribbon Soundworks have chosen to implement! The clever thing about all this is that these Bars & Pipes messages can be sent by almost any program which supports ARexx, including the ARexx interpreter.

Let's suppose you've got another ARexx-compatible program running, say Superbase Professional, and you want it to control the Bars & Pipes program. Superbase's DML language has an extended ARexx CAL command which looks like this: CALL port EXECUTE string-expression.

Again these syntax extensions are nothing to do with the language itself. In this case they are Superbase's part of the program – program interface and you need to follow the syntax for these commands in just the same way that you'd follow the syntax for any other DML command.

If, for instance, you wanted a Superbase DML program to transmit a SMPTE position command to Bars & Pipes so that the sequencer relocated to position 0 hours, 1 minute, 23 seconds, 12th frame you would write the DML instruction as CALL "Bars&Pipes ARexx" EXECUTE "LOCATE SMPTE 0.1.23.12" To start Bars & Pipes from Superbase you might use the instruction CALL "Bars&Pipes ARexx" EXECUTE "START".

Using ARexx with two large programs like Superbase Professional and Bars & Pipes Professional is rather wishful thinking for most people – unless you've got more megabytes than you know what to do with – but of course the general principles are roughly the same for all ARexx-compatible programs. What should be obvious from the above discussion is this: the average user, as far as the communications side is concerned, is mainly involved with learning about the applications program ARexx syntax, not about the ARexx language itself.

This raises another point worth remembering: the command formats, and the flexibility of any particular package – in terms of what it can and cannot do ARexx-wise – is primarily due to how the applications program ends of the ARexx links have been programmed.

At the end of the day, successful inter-program ARexx links are as much to do with the applications programs as they are to do with ARexx itself.

What it does, however, is provide the standardized framework which allows individual programs to weave their own particular communications magic.

ARexx is by William S. Hawes and currently retails at #39 For more details contact The Amiga Centre Scotland. Tel: 031-557-4242.

Other goodies

In addition to launching programs and controlling the communications facilities the resident process acts as a general resources and housekeeping manager. One example of a resource that the resident process controls is the Global Tracing Console.

ARexx allows a separate trace console to be opened which deals only with the tracing/debugging information – thus preventing the problem of tracing I/O being interleaved with normal program I/O.

If all this were not enough, the package includes developers' information for the design and implementation of ARexx interfaces and includes both details of the support functions present in the system libraries and of the necessary include files, all of which are available on disk as part of the standard ARexx package.

Last Words

The implications of having a standardised programmable interface available for the Amiga are far-reaching. In theory at least it means that all software products which support the ARexx interface are able to talk to each other and exchange information.

The close adherence to the original Rexx language will hopefully mean the interface will not be restricted to Amiga products but could conceivably open other doors for the Amiga user – mainframe links and so on. The potential usefulness of the ARexx interface depends to a large extent, of course, on whether software houses adopt the ARexx option but the current signs are encouraging.

AmigaTex (Radical Eye Software), TxEd-Plus (Microsmiths), Cygnus Ed, C.A.P.E.68K (Inovatronics) MicroFiche Filer Plus and, of course, WShell (William S Hawes) were some of the first packages to support ARexx. Precision Software were also quick off the mark in providing ARexx facilities with the release of Superbase Professional 3.

The Superbase facilities are included as part of the database management language DML and, as we've seen, they provide ARexx communications from within DML applications programs. There are plenty of other examples including the Lattice/SAS LSE editor.

The Bars & Pipes Professional sequencer package mentioned earlier is a very recent ARexx-compatible arrival and there is also a growing collection of public domain ARexx software beginning to appear. More and more software houses are promising ARexx support and Commodore seem to be actively encouraging this trend.

Now, when companies like Lattice/SAS start giving their vote of confidence to ARexx, others tend to be only too happy to follow suit. The end result of this interest is that the ARexx snowball is definitely rolling and it's unlikely to stop! The package is supplied on a single disk together with a well produced manual. The content of the manual is excellent but, although it contains a suitably gentle introduction to the language, I should mention that later chapters deal in detail with the type of material that is really only of interest to the more advanced user.

Don't forget that if you are into C or 68K Assembler programming then you'll be able to do something that is beyond the average user – write your own ARexx controller interfaces.

If you are in that league and want to take that kind of serious look at the ARexx language then, whether you've graduated to an A3000 or not, you'll really appreciate the thoroughness of the documentation. The package has the capabilities, the presentation and the feel of products costing substantially more. All the indications are that ARexx will become accepted in just the same way as say the IFF standard has been. My advice, especially if you have a serious interest in the Amiga, is to go out, buy ARexx and use it – you're unlikely to be disappointed!

AMIGA COMPUTING

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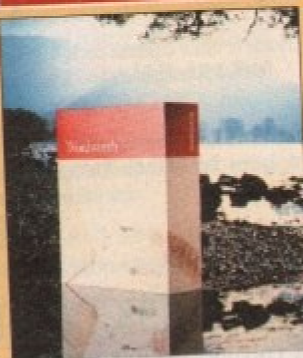
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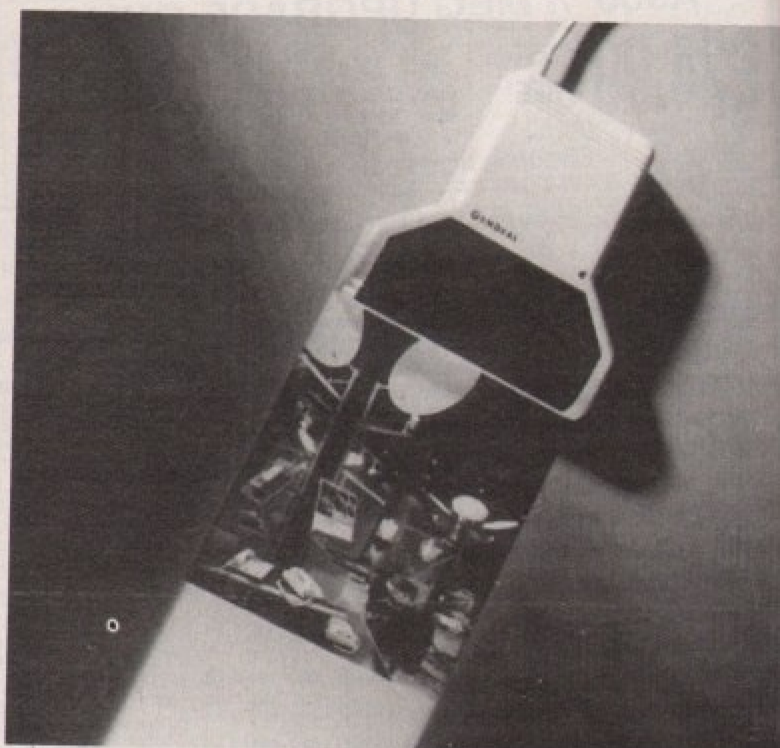
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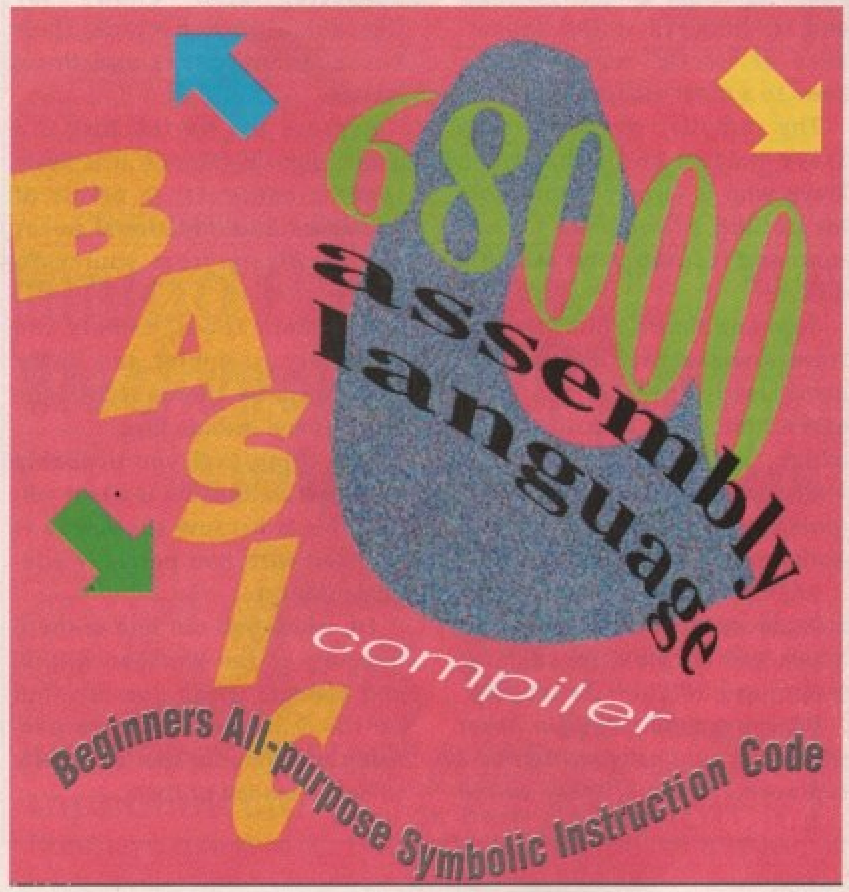
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Getting serious

Paul Overaa explains some programming snags – peculiar to various languages – that Amiga users can get hung up on

Learning how to program the Amiga involves far more than just learning a suitable language. But you have to start somewhere and, having said that, a few words about the three main languages available to the Amiga user are still in order.



The Basic language

To a large extent, Basic has always been considered a beginners' language – which isn't too surprising because that is exactly what it was designed to be. Basic, which was developed by Professors John Kemeny and Thomas Kurtz at Dartmouth college in 1963, actually stands for Beginners All-purpose Symbolic Instruction Code.

Now Basic may have started out as a very rudimentary language but over the years it has grown enormously and now almost all versions of the language, and that includes those available for the Amiga, are quite good. It is best thought of as a general high-level language that is particularly suitable for beginners.

So, Basic has come of age. There are several reasons for this. Firstly, the dominance of Microsoft during the 8-bit CP/M days of the previous decade led to a sort of Microsoft-flavoured de facto standard being accepted.

This eliminated the earlier situation where almost all available implementations of the language were different.

Recently written Basic interpreters tend at least to keep the main core of the language in line with other offerings.

Following those early Microsoft days there has been a trend for providing decent, structured constructs: IF-THEN-ELSE, FOR and WHILE loops, ON-GOSUB etc.

This, coupled with recent improvements such as argument passing and the use of local variables in subprograms and so on, has meant that many earlier criticisms of the language are no longer valid.

Unfotunately, there are still many areas where Basic can be criticised although the one most publicised – that because it is an interpreted language it is slow-running – is actually unfair. Interpreted Basic is slow because the high-level instructions, or statements which make up a Basic program, have to be translated line by line *before* they are executed.

Criticism

Today you can get Basic compilers – programs which will do that translation process in advance, thereby producing programs which do not suffer from a runtime translation overhead.

This makes it possible to get the best of both worlds: the programmer can use the interpreter based version to obtain a rapid code/run/edit/re-run cycle time during development, and when the program is complete, the compiler can be used to produce the final version.

The real criticisms of the language stem not so much from faults in the things that Basic does offer, but from the fact that there are advanced features found in other languages that are not found in Basic.

It lacks easy modular/library routine facilities and is unable, in general, to support things like recursion, complex variables, and multiple indirection.

Basic remains one of the best languages to learn first. Having said that, there will, if you are seriously interested in programming, come a time when you will wish to move on to richer pastures.

The C language

You only have to pick up an official Amiga reference manual to see how important C is to the Amiga programmer.

This is because large amounts of the Amiga's operating system software was written using C and this dependence has spilled over to the technical documentation.

Why was C chosen? The underlying reason is simple. C is an absolutely brilliant language.

It is small and so is relatively easy to learn. It is a compiled language which produces fast running code and is well suited to modular – stage-by-stage – development because it supports the separate compilation of individual modules.

C offers facilities for using complex variables called structures, which provide a powerful way of grouping and accessing sets of related items as a single unit.

It also supports recursion and has absolutely incredible multi-level indirection pointer facilities.

Programs written in C can be very portable, which means that they are easily moved from one machine/operating-system to another. That said, just because you write a program using C as the language it does *not* mean necessarily that the program will be portable.

To write portable C code you need to take a lot of care to minimise the use of and isolate the areas of a program which may be machine/OS dependent.

C, on the Amiga at least, is unfortunately quite an expensive language but having said that the two major C compilers for the Amiga really do offer excellent value for money.

Lattice/SAS is a superb package and Manx's Aztec C is another offering that is generally very well thought of.

With both of these commercial offerings you get far more than just a compiler, you get a complete programming environment which includes a compiler, editor, assembler, debugger, large libraries of prewritten routines, ➤

and a host of other goodies. Most important of all you will also get good documentation and ongoing product support.

PD C compiler

Recently a public domain C compiler has appeared called NorthC. Public domain C compilers are few and far between so the appearance of NorthC was welcome news to a great many people.

The compiler was written by Steve Hawtin and it has been Steve who is largely responsible for putting a "complete C environment" together on a single disk.

To create NorthC, disk offerings from many other people have been used. There is the A68k assembler from Charlie Gibbs which is based on Brian R Anderson's 68000 cross-assembler (published in Dr. Dobb's Journal, April through June 1986).

A68k produces AmigaDOS-format object modules and includes many enhancements such as macros and INCLUDE file support.

Blink is a public domain linker which was originally written as a replacement for a linker called Alink. However, Blink is so good that Lattice/SAS themselves now supply it with their compiler package.

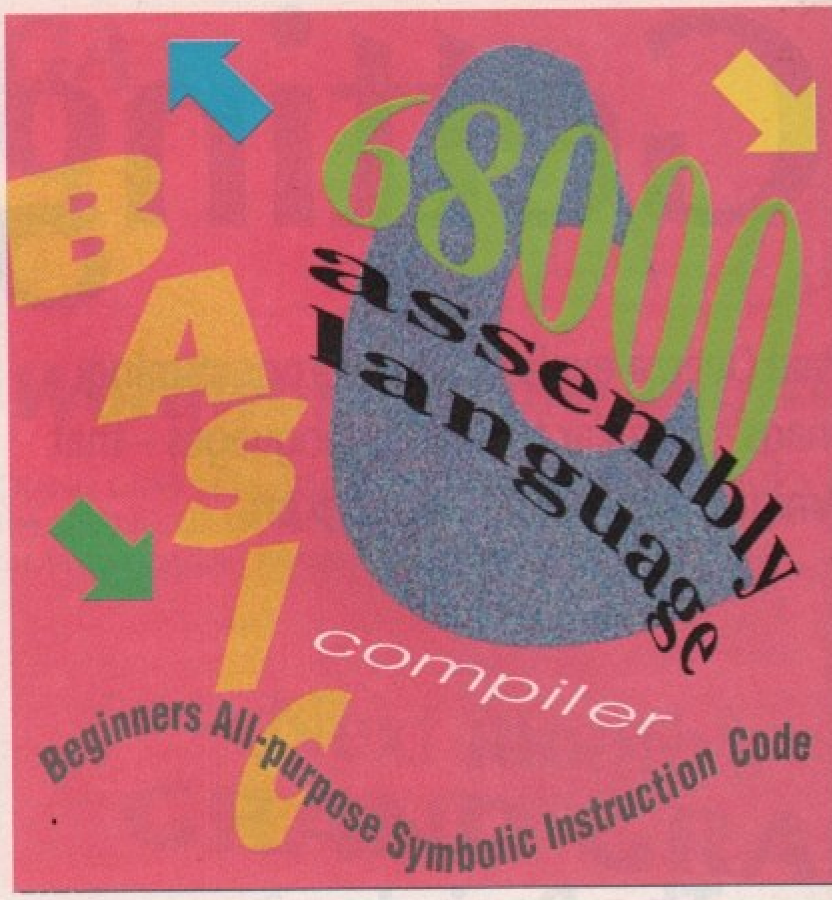
The programming team responsible for it are The Software Distillery and those members who have been significantly involved with Blink include Dave Baker, Ed Burnette, Stan Chow, Jay Denebeim, Gordon Keener, Jack Rouse, John Toebes and Doug Walker.

Because the NorthC disk is a public domain offering it is likely that its contents, in terms of examples and additional notes etc, may vary from source to source.

The main tools, namely the compiler, assembler and linker will always be there. So will the libraries and include files.

One thing that you probably won't get on the disk is a text editor. This is because the Amiga is supplied with two perfectly adequate editors.

Ed, which you can find in the C directory of the WorkBench disk, and Memacs which you can find on the 1.3 Extras disk are perfectly adequate for the tasks likely to be demanded of them.



68000 Assembly language

Everybody seems to think that assembly languages are difficult to learn. This simply is not true – the instruction sets of most processors, even powerful ones like the 68000 used in the Amiga, are quite limited and there is nothing inherently complex about the operations involved.

Each instruction carries out some elementary task, perhaps adding two values together or copying the contents of one memory location to another.

The problems arise when you try to work out how to combine thousands of these elementary instructions into a program which does a particular job. It is a task which is prone to error and, by its very nature, tends to be time-consuming.

Assembly language programming needs attention to detail and the programmer must have the ability to break down a programming problem into more easily managed sections so that any difficult coding problems can be solved on a piece-by-piece basis.

So what are the benefits? Firstly you'll be able to make your programs run at the ultimate speed. Secondly, you will get a gut feeling for what computing is all about at the nuts and bolts level. That is something which will help you to understand much more about high-level languages and the problems which they have had to address.

Assembly language programming on the Amiga adds another dimension – the complexity of the operating system itself.

Before you can comfortably write Assembler code to do a particular job it's necessary to know enough about the operating system and its library code system call arrangements to work out what your Assembler code should be doing.

Learning about these Amiga facilities alone is a massive challenge simply because there is so much to understand. There is no easy road, you just have to sit down and work hard at it.

Don't get disheartened, we have all found the Amiga a long hard slog but take it from me, it does get easier after a while.

If you persevere and manage to get through the first couple of years without giving up, the chances are that you will be home and dry!

Last words

A serious programmer coming into the Amiga fold has three fundamental problems:

- Understanding a suitable language. This really means becoming competent at C. Even if you were wishing to work with Assembler, or a language like Modula2, you would still need some undertanding of C in order to understand the Amiga's reference manuals.

- Coming to terms with the Amiga's facilities and its technical documentation. A frightening task for newcomers and those coming from the relatively simple 8-bit computer world. Old hands who have Unix experience will be far less troubled by either the technical issues or the mass of documentation.

- Working out how to break programming problems down into easily manageable pieces. Again, programmers who have acquired proficiency on other complex machines or business-orientated programming environments will be far better placed than the Amiga owner whose only experience has been a Commodore C64 or similar computer.

What's the solution? Well, C as a language is not difficult to learn, so any problems in this area disappear relatively quickly. Any difficult Amiga-orientated system topics that will eventually need to be understood can really be tackled on a "need to know" basis. Just make a point of learning first about those aspects that seem to be essential to whatever project you intend to get involved with – leave other areas until later.

Given a C compiler and the right Amiga documentation most competent programmers quickly come to terms with the Amiga. Newcomers do not!

One of the major stumbling blocks for many would-be programmers is that they have never been taught how to translate their ideas into forms which can be coded physically. These latter problems take us into the world of program design and there are superb techniques – like the Warnier diagram – which help a lot. That, however, is a story for another time!

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The artful ALFRED



Stevie Kennedy finds an educational toy to tempt you back to the science labs

The exploding hydrogen balloon, the sputtering potassium-in-water trick, and even the water-propelled rocket are old hat these days in Britain's school science classes. Computers and laser disk players are the big attractions with children in the '90s, so what better way than with a beckoning robot arm to tempt the little horrors back into the physics lab?

The national curriculum places a great emphasis on the need to teach technology and the *control* of technology, an attitude most clearly demonstrated by the early LOGO-controlled turtles. This is easily extrapolated into the information technology content of other courses, and A-level subjects such as computer studies, so the uses for a device such as the Alfred arm are about as varied as the teacher's needs.

Armed and dangerous

In essence, Alfred is a baby brother of the industrial Mars and R2000 robots, but he isn't just a toy. The arm is controlled via only six servo motors, but the user has a surprising amount of control over movement.

In control terms, each of the servos moves through a variety of arcs, from 60 to 250 degrees, but they all divide this into 256 steps of equal size. This means that the gripper, for instance, (more often thought of as Alfred's "mouth") is controllable through an arc of 60 degrees with a resulting range of 0.23 degrees per step, but that the waist servo, running through 180 degrees, can only be positioned to the nearest 1.7 degrees.

The result of such a wide range of sensitivities is that Alfred is of limited use in an industrial environment or one which calls for precise positioning. The gripper, although controlled by dynamic servo feedback, will only lift 110 grams at a time. The feedback means that Alfred can lift an egg without crushing it, but don't expect it to shift a very heavy egg.

With a robot as simple as Alfred, you would be forgiven for expecting the controlling software to be a bit on the primitive side. The Process Control software, however, is not only easy to use, but also offers complete control over the position of the arm within the limits of the servos.

So that the user can get to grips with Alfred immediately, all six servos are controllable by clicking with the mouse on a set of sliders, and for fine tuning there are arrows which enable the user to position the slider at exactly the right part of their axis. With these, you can play around with Alfred to your heart's content, but it's only once you begin to program movements that you realise his true potential.

Bionic ballet

Alfred's programming controls are simple enough for anyone to grasp. All you have to do is click on the "+" sign in the bottom right-hand corner of the screen to insert a new line of co-ordinates, then position the arm using the sliders as before. When you're satisfied, click to insert a new line.

The user can thus quickly build up a very complex series of movements in a step-by-step way until Alfred is programmed to carry out manoeuvres resembling a bionic ballet. The Process Control software includes a simple "Pick up and Drop" sequence, but any schoolchild should be able to produce better results very quickly.

The main headache with control is the way Alfred's gripper works. It is controlled by two servos for left and right rotation of the "wrist" and one for closing the gripper. Unlike in some of the more complex industrial robots, there are no extra servos for a two-way grab or hinged "finger", but despite this the gripper actually grips quite well.

The problem is with positioning the head for gripping to take place. The two servos can be moved in steps as small as 0.98 degrees, but synchronising them is a real pain until mastered. Plenty of practice is needed in this part of Alfred's operation.

Alfred add-ons

With the addition of a range of sensors on offer by Think Ltd, Alfred can be put to more practical uses, though most industrial tasks will be beyond him due to his light frame and flimsy grabber.

In a laboratory environment or very light industrial workshop, however, the addition of the Rotary Table and Conveyor Belt transforms Alfred into a very useful and economical solution to a range of repetitive tasks.

His two "Octopus" ports give him access to these and a wide range of external hardware which can be directly controlled through the software using sliders in exactly the same way as his servos. Additional equipment – at additional cost – includes sensors for proximity, humidity, sound, temperature, and a wide range of others, so with a bit of investment Alfred can become a versatile piece of equipment.

Conclusion

If you're a science teacher or industrial training officer, the advantages of a system such as Alfred are obvious. He is fun to use, easy to operate, and with the additional hardware is a great deal more than a toy.

Of limited practical use due to his light build and comparatively imprecise controls, Alfred could still render valuable service in a lab or workshop, and is a guaranteed hit with schoolkids. He might be a bit of a strain on shrinking school budgets, but I'd write him glowing references for any prospective educational user.

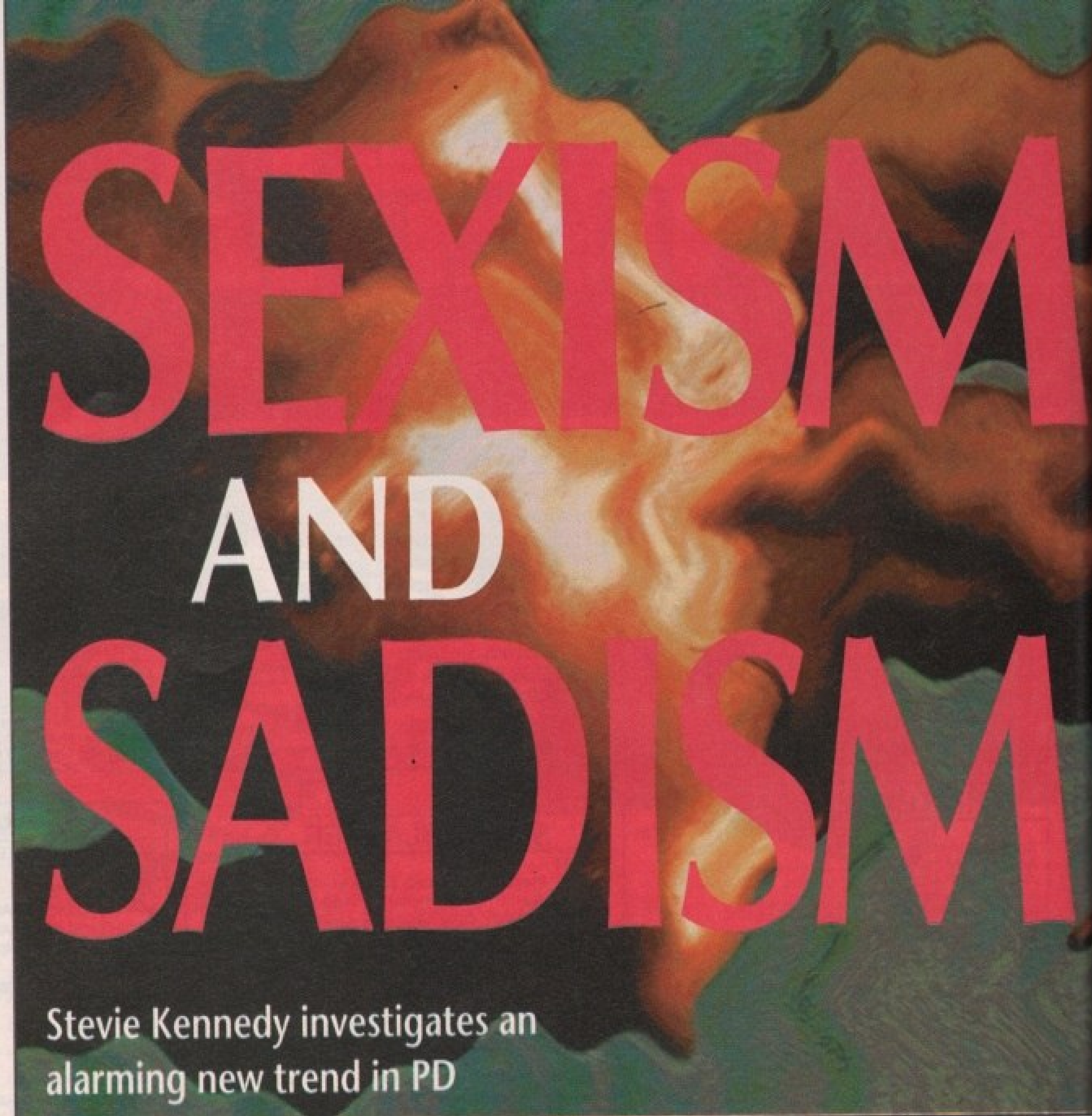
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SEXISM AND SADISM

Stevie Kennedy investigates an alarming new trend in PD

Guaranteed to raise groans and start arguments in the average household, or raging fist fights at student meetings, sexism is one of those thorny topics that few seem eager to tackle.

Unlike piracy, which has been thrashed to death in the computer press, sexism and other difficult subjects such as violence and racism, have been virtually ignored. Cynics could point to the fact that the software industry never lost money through sexist software, and offer this as an explanation of journalistic reticence.

It's probably fairer – though just as cynical – to blame the lack of coverage on the controversial nature of the subject. Most computer mags are, after all, consumer publications and generally attack less controversial issues such as value-for-money and ease-of-use. The biggest problem when tackling issues such as this is the rapidity with which the argument can be confused.

In order to keep things as clear as possible, therefore, the main points on both sides of the argument are roughed out below.

Our first two articles on this topic, in the February and March issues, were aimed at provoking a response from those whose views will most affect the way the software companies react: the readers themselves. The following is a selection of what they had to say.

Sauce for the goose...

I read with interest Stevie Kennedy's comments on sexism in software, and the opinions put forward by F A Mari in the June issue letters page and I would like to put forward my own opinion on advertising. I recently had the great misfortune to be watching television in the morning and a show allegedly entertaining the people of Britain with an American male strip outfit called The Chippendales. In this show, the female audience seemed to go into a frenzied state as five men dropped their trousers and danced in a seductive manner. Now all this is aimed at women because they are the majority TV audience during daytime television.

In computing, boys and men are the majority audience, so it strikes me that it would be normal for men to use women to sell products. After all, This Morning uses men to sell advertising space just as the Milk Marketing board uses the sweaty body of a man to sell more milk.

Mick Heyes, Nelson, Lancashire

There are three points to make in reply to Mick's letter:

- ***Sexism is sexism no matter at which gender it is aimed.***
- ***Most male sexist stereotyping is in a form with which, arguably, most men are actually comfortable. This is less true of female stereotypes.***
- ***The claim that "it would be normal for men to use women to sell products" says it all. Why should we denigrate any section of society just to boost sales?***

FOR: It isn't as bad as all that!

- The amount of sexist material in computer software and the computer press in general is negligible when compared to TV and videos.
- There is as much emphasis on semi-naked male figures in games such as *Barbarian* as there is on females. Women, therefore, aren't treated unfairly.
- The sort of "pornography" we find in software is all fairly harmless stuff, such as "naughty" strip poker games, and is hardly offensive when compared to the excesses found in other media.

AGAINST: Nip it in the bud!

- The computer industry unlike, say, the car industry, is heavily orientated towards children. Any sexist attitudes are therefore both more harmful and more stereotype reinforcing
- Sexism of any nature is inherently a bad thing and should be resisted, especially in an industry in which it has only recently become a problem
- Unlike videos and magazines which are passive media, children are invited to take part in computer entertainment, especially in games software. It can thus be argued that computer software is particularly prone to passing on its prejudices

Puerile PD

I am writing with regard to the debate on sexism in computing. I suspect that the main point at issue is not simply sexism in computing, but sexism in the computing press. It is a fact that sexism exists in almost every walk of life, and as a society it is up to us how we treat it.

Constant criticism and attacks from several sides are beginning to see the demise of the top shelf full of dirty mags in newsagents. If these attacks had not taken place, then simply going to the newsagent could turn into a very embarrassing experience for women or parents with children.

This shows that there can be value in keeping issues such as this out in the open, and I feel that sexism in the computer industry can thus be stopped in its infancy. Sexism is an almost 100 per cent male preserve and it is becoming quite common for Amiga magazines to feature programs showing scantily-clad women, never men.

I for one don't want to have to explain to my children why there are pictures of half-naked females in a magazine they are reading for games information. The only thing I as a reader can do about this is not buy the magazine in question. It is up to the publishers to stop this kind of stuff appearing.

Further, I feel you must control the content of your advertisements. These reached an all-time low in issue 37 with one particular PD library's advertisement. Under a column headed "Over 18", there appeared disks titled, among other things '"Sick 'n Sexy" and "Horny Dog Anims".

To me and, I suspect, the vast majority of your readers, this is offensive.

Could you take it to your wife and/or children and say: "This is an example of the industry I work in"? Finally, thank



you for bringing this debate into the open and onto your letters page. Keep it going, and decency will prevail.
James Stephens, Warrington, Cheshire

- ***While we shouldn't be complacent about PD pornography, I can't say I share either your conviction that top shelf mags are on their last legs or that naked females are becoming commonplace in the computer press.***
- ***The advertisement to which you refer has already been altered. Its appearance in the form it took was an oversight on the part of our production people and we apologise for any offence it may have caused.***
- ***Sadly, you may not be as "Joe Public" as you think. One PD library told us that about 60 per cent of disks sold were from the adult collection and that most orders for other disks also contain an order for one or more dubious disks. They haven't received a complaint from "Joe Public" about the content of a disk in almost two years of trading.***

Outrageous

From the high level of outrage which was necessary to prompt the Calcutt committee's report on newspaper self-regulation, and the years of protests from people who thought the tabloids were offensive and sexist, it would hardly be a prediction worthy of Old Moore if I were to say the computer publishing industry – software and magazines – is unlikely to respond quickly to the faint stirrings of public concern we see in the sexism debate.

Other signs, however, are more encouraging. The vast majority of software houses are responsible bodies, and few have blatantly flaunted normal standards of taste.

As any software publisher would tell you, it's not in their interests to offend the buying public, so where a real threat of offence is *perceived*, the industry already regulates itself quite well.

The real danger lies in the increasing number of obscene PD demos and the marginal software publishers out to corner the pervo market in a new medium.

If these people refuse to clean up their act, it's only a matter of time before the Obscene Publications Act is wielded, mace-like, on our industry, and that will be a sad day for everyone connected with microcomputers.

The law

Section 1 of the Obscene Publications Act 1959 states that a publication is obscene if it is considered "likely to corrupt or deprave", and it is up to the court to decide which publications fall foul of the distinction.

We spoke to Detective Superintend-ent Hames of New Scotland Yard's Obscene Publications Squad who confirmed that the police are "concerned about the growth in the amount of pornography on computer disks... especially as it's so cheap and available to children". The squad, he told us, had so far not made any seizures in this newest area, but that they "will be taking action soon".

Under the provisions of the 1959 Act's sections two and three, the police have extensive powers of search and seizure, but as Mr Hames said "the problem is that juries often have different ideas on what is obscene". The PD demos causing most concern will, we are confident, leave little room for doubt.

Obscene publications

To most people, public domain software is a cheap alternative to commercial software which is as much as 30 times more expensive. Thousands of computer users have for years been enjoying the benefits of utilities such as SID and Powerpacker, and games like Missile Command or Tripppin.

All these programs have appeared on our coverdisks at one time or another. There is a sector of the public domain which will never contribute to magazine coverdisks, however, and that is the growing area of pornographic disks available through almost any PD library you care to name.

Thin end of the wedge

In the early days of PD, it wasn't surprising to note the appearance of disks full of nude photographs either scanned from men's magazines or digitised using the growing number of Amiga video peripherals. The technology available made it easy to transfer photographic images to computer disks, and it would have been unrealistic to expect the voyeurs not to take advantage of the new medium.

Such "slideshow" disks, although offensive and tasteless, are mostly of a similar nature to the sort of magazines one could find on the top shelf of any local newsagent and, as such, are not illegal.

> *The odds are that obscene animations can be found in thousands of under-aged computer users' disk boxes*

Of more concern is the effortless availability of such material. This can be differentiated from the traditional porn scene in three ways:

- By sending a postal order and a letter declaring themselves to be over 18, a child of any age can purchase such a disk from an ordinary PD library.
- The PD libraries selling the disks advertise in magazines aimed specifically at young audiences. Children do not have to purchase men's magazines to find out where the disks can be obtained.
- Every computer-owning child has the equipment to display and duplicate a PD disk full of pornographic material in less than three minutes. Unlike videos and magazines, there's no need to pass it around – a group of friends can each have his or her own copy.

These factors mean that any excursion into PD by the sort of porn merchants who did so much to sully the fledgling video industry's image would be potentially much more damaging in our own industry. An analogous situation would be where the Beano was published containing page three models and page seven fellas.

Over the past year or so the PD porn situation has gone from bad to downright revolting. With the appearance of more and more obscene material, still images have begun to give way to an increasing number of animations, most of which leave little room for the imagination and absolutely none for decency.

While some of these continue to boast little more pornographic content than the average 18 certificate movie – which is bad enough when made available to 13-year-olds – a large number of them can only be described as hard core. And there are many which would make even the most broad-minded adult blanch.

Animations taken from adult videos and triple-X-rated films are digitised in what is technically a high quality computer "video" lasting anything up to 30 seconds. The results, often involving animals and violence in the most blatantly sexual context, are gratuitously obscene.

An adult disk might typically contain three such animations taken from similar sources, any of which could be played back on a standard or one meg Amiga 500 – the sort of machine owned by hundreds of thousands of children and teenagers. One animation sent to us was called "Lassie Cum Home", and we found it impossible for reasons of taste to include screen grabs. The title should give you some idea of the content.

Such animations are on offer *right now* to users of all ages. The majority of our readers who have purchased disks from a PD library will have received a catalogue containing, among other things, an adult list or an advertisement stating that one exists. By the law of averages, many of these people will be under the age of 18.

If, as some public domain libraries would have us believe, almost 60 per cent of the disks they sell are from the adult list, the odds are that obscene animations can be found in thousands of under-aged computer users's disk boxes. Perhaps in your son or daughter's collection of seemingly innocuous PD demos?

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Packed out

I recently tried the coverdisk from your May issue only to find problems with PPType.

I keep getting a requestor which tells me "You need Powerpacker.library V33+", and the program stops working. What is this library and how can I find it?

P R Houghton, Stockport

From your letter, it's obvious you have copied PPType from the coverdisk to another disk, and failed to include the accompanying file, powerpacker.library, from the coverdisk's LIBS directory.

Many programs use custom library routines, and if copied to a disk which does not contain the library, they will not work.

Likewise, if you boot off a standard Workbench disk, then attempt to use the coverdisk from an external drive, you will have the same problem.

Basically, AmigaDOS looks in the LIBS directory of *the disk from which the machine was booted* to find system files such as libraries and device handlers.

Use the Copy command to copy the powerpacker.library from the coverdisk to the disk from which you normally work, and PPType should work fine.

Memory meter

I am 64 years old and enjoy strategy games, sport games, and chess which I play on my 1Mb A500. I know very little about computers, so the other day I decided to experiment.

I took a Workbench disk, clicked on everything, copied, moved, deleted, and generally had a great time with it.

When I finished I went back to playing my games with no problem.

Three days ago, however, when I tried to load one of my 1Mb games, the Amiga said "Not enough memory". I tried another 1Mb game and it said "Not enough chip memory".

I have played both games a number of times with no trouble, so I have obviously done something wrong while playing about.

I was led to believe that I couldn't do any damage to the computer itself by experimenting, only to the disk.

The fault cannot be with the expansion board, as the memory meter at the top of the screen reads well over 800,000 bytes.

The memory still seems to be there, but could the problem be from my messing about with FastMemFirst or MergeMem? I thought everything reverted to default settings when the computer was turned off.

Bruce Wilson, South West Denton

The problem won't be with FastMemFirst, nor does it appear to be in your hardware. The 800,000+ bytes you describe is the usual amount of memory left once Workbench has loaded on a 1Mb machine, so the ram expansion seems to be working fine.

If you are attempting to run a 1Mb game *after* you have already booted from Workbench, and not from the game disk itself, the Amiga will have less memory to play around with.

Try turning off the machine, then re-booting from the game disk.

Make sure you don't have any peripherals such as printers or extra drives attached, as these also take up a small amount of memory for caches and so on.

If you do all this, the game should have the maximum amount of memory in which to run, and should do so with no problem.

Copy beginner

I am a recent purchaser of an A500, and a convert to your magazine. Both I and my son find particular enjoyment in the coverdisk, but we wish to extract individual programs from the disk and put them on new blank disks, and I'm afraid we don't have the knowledge to do this.

I know that in your magazine you say I should ensure "PPmore is in the current disk's C: directory", but as a complete beginner I'm unsure exactly what you mean and how to go about it.

Would it be possible to supply a step-by-step guide to copying individual programs from your disks to a blank disk?

Name and address supplied

The process of copying from one disk to another can be confusing, especially if you're a beginner and only have one disk drive. How many times have you had the "Please replace volume such-and-such in DF0:" requester?

The best way, if you don't have a copy of SID, which is on our Workstation disk, is to copy everything you need into RAM:, then change

On a musical note...

I've had my Amiga for four months and I'm pleased with the results apart from in one aspect. My friend has had his Amiga for approximately three years and has a small studio dedicated to music linked with the Amiga.

His setup consists of a Korg M1, two Yamaha EMT 10 sound modules, and an effects generator all linked to an Amiga running Music-X. Both he and I have the same problem – we need sequencer software with a traditional notator either in the package or in a compatible program. We have tried DMCS, but this is slow and inconvenient to use.

At school we use an Atari ST with Cubase, C-Lab, and Pro-24. I use these programs a lot and from what I've seen, the ST is superior for music software. I love the Amiga and would like nothing better than to see more capable software for this brilliant machine.

Chris Cooper, Rawtenstall

The only package I can think of is the KCS Dr T's music software, which more often than not is supplied with Copyist software as a bundle. You can use this to compose a piece, then save it out and port it straight into Dr T's for sequencing and tweaking. Check our ads for suppliers.

disks and copy it all to the new disk. The series of commands to do so for PPmore would look like the following:

```
CD C:
COPY COPY TO RAM:
COPY CD TO RAM:
COPY PPMORE TO RAM:
CD RAM:
```

Now eject the coverdisk, insert the blank disk and type:

```
COPY PPMORE TO DF0:
```

The file will copy across with ease. If you now want to go back to using the coverdisk, replace it in DF0: and type

```
CD DF0:
DELETE RAM:#?
```

The last command will free up your precious memory.

To copy a large number of individual files, just copy them all to RAM: as in the second step, then to the blank disk in one go. The command to do this is

```
COPY #? TO DF0:
```

when in the RAM: directory.

Bags of kit!

I have a 1Mb Amiga 500 which I use on a JVC TV, and a Mannesman Tally printer. I want to know, however, if it's possible for me to use some of the equipment my father has lying around.

There's a Howtek Pixelmaster printer and Scanmaster scanner, a Barco CDCT model 6351B monitor, an Everex 386 PC, and a free-standing "thing" with a sticker on it that reads "Zero/Electronic Solutions Info Processing Equipment Series 7DM systems enclosure". We don't know what the series 7DM thing is. Any ideas?

I assume the Pixelmaster printer will work with my Amiga as there is a printer driver for it on the Extras disk, but is there any way I could use the flat-bed scanner with DPaint III?

What kind of conector would I need to connect my Amiga to the CDCT monitor? Would that be a waste of time?

I can't see much use for the Everex system. Can you?

Roy Sharp, Liverpool

Your main problem seems to be the ownership of a surfeit of high-spec equipment. If only we had such problems!

First the good news. The printer will work fine with the Amiga as long as you select the correct printer driver from the Extras disk. The monitor, too, will work, but not as easily.

The model 6351B can sync from 15KHz to 33KHz, so it will accept both the standard Amiga video signal (15.5KHz) and that output by flicker fixers (31KHz). To take advantage of what is an excellent monitor, you will need an Amiga-to-BNC connector as the monitor accepts analogue RGB.

If you wish to make use of the best Amiga display mode, and feel up to forking out for a Microway flicker fixer, recently price-cut to £125, you can enjoy a rock steady interlaced display without the need to pay extra for a VGA or MultiSync monitor. The bad news is that there's no way, short of buying an A2000 and PC bridgeboard, to use the scanner in question with an Amiga. Teckex (0628 777800), the UK distributor for Howtek, produce interface kits to connect the Scanmaster to PCs and Macs, but not Amigas.

This means you'd have to use an A2000, which has two PC-compatible slots. The first would hold a PC bridgeboard, and the second the scanner controller card.

Your best bet would be to hook the scanner up to the 386PC, then port the images into the Amiga using CrossDOS or Dos-2-Dos, finally converting them into Amiga IFF format using ASDG's Art Department Professional software.

We don't know what the System 7DM ""thing" is either, but it sounds like a tower casing or systems box for a PC.

Finally, if you don't know what to do with the Everex 386, then you're wasting a powerful computer and I would advise you send it to me in the post immediately!

Cobol capers

I write with reference to Neil Mansell's letter on a possible Amiga Cobol compiler in the July issue.

I too had the same problem of trying to find an Amiga Cobol compiler, and with no luck.

The only solution I could think of was to buy the Transformer PC emulator and use a PC Cobol compiler, of which there are many. This does the job, albeit slowly, of compiling Cobol source code. Using an Amiga wordprocessor to produce Ascii source code, I transferred the files to PC disk using the PD program CrossDOS and compiled from there. Alternatively, you could use a PC wordprocessor or text editor running under Transformer.

I don't know how the Transformer will cope with large programs to compile, as I have only tried it with small ones as yet.

Good luck with the exam, Neil! Finally, thanks to *Amiga Computing* for the extra 60 square centimetres and for being the best.

Lee Booth, Bolton

There you go, Neil. So far I still haven't heard of an Amiga Cobol compiler, so it looks as if you'll have to try the sort of solution Lee offers. The Transformer should be perfectly adequate for the job of Ascii text Cobol compiling, as it doesn't require too many machine-specific operations.

If you're going to settle for a PC emulator, however, you might want to consider the ATOnce from Silica (081 309 1111) or the KCS Power Board from Bitcon (091 490 1919). Both boards are more powerful than the Transformer program, which is difficult to come by these days, and both would allow you to compile your programs a great deal faster.

BATTERY POWER

Our reply to July's letter from Mr Tavinor, who wanted to use his Amiga from a battery supply on board his boat, prompted a few helpful hints from Amiga owners with a similar problem.

PART 1: In reply to Mr Tavinor's letter in the July issue, CPC component suppliers have a transistorised inverter which gives 240V AC 160W from a car battery. This would be adequate to run an Amiga in a boat or caravan environment.

Price is £36 and the catalogue number is HK3501. CPC are a trade-only company, but a friendly TV repair shop should be able to order it by phoning CPC on (0772) 555034.

David Tilley, Preston

PART 2: Strictly speaking, it is incorrect to say the Amiga runs on AC power. The Amiga's power supply requires AC *input*, but it converts this to DC output. It would seem wasteful to connect an inverter to a 12V battery in order to convert 12V DC to 240V AC, then connect a power supply to convert 240V AC to +/-12V DC! The Amiga power supply outputs three voltages: +12V, -12V, and +5V. Battery power is the smoothest DC available, so the minimum requirements would seem to be:

1. Two 12V car batteries
2. mA7912UC -12V voltage regulator
3. mA78H12KC +12V voltage regulator
4. mA78H05KC +5V voltage regulator

These could be set up as shown in Figure 1. Noise decoupling capacitors are not strictly necessary for a battery supply.

L J Maxwell, Birmingham

Thanks for the tips, folks! With any luck, the Amiga owner afloat or caravan-bound can now continue to use the machine anywhere. Remember, though, that we still recommend anyone with doubts to forget it! Safety is always the first consideration, and the life expectancy of your Amiga the second.

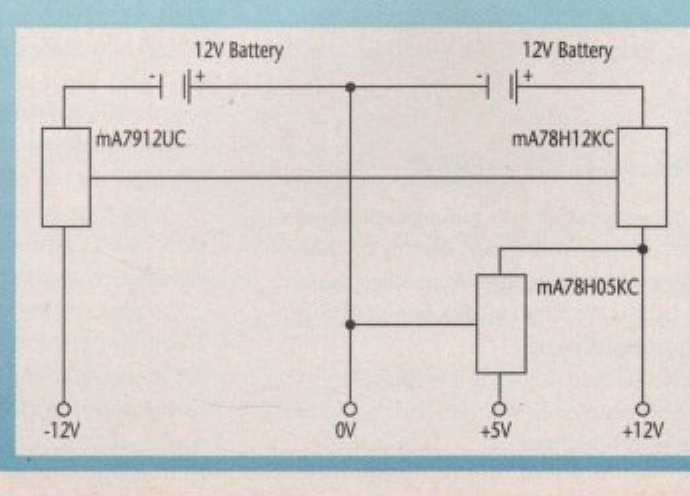


Figure 1

Paul Austin explains how to customise the Workstation and speed up access to those essential utilities

Add some tailpipes and bucket seats to the best utility in the business



The stylish but slow loading screen

As an ever-growing pile of letters proves, many Workstation users are itching to scratch some files from their disks. In some cases this is merely a matter of deleting the odd doc file, but for others drastic surgery is called for, and if that's the case, a guiding hand might be useful while you're wielding the knife.

The most common question is how to remove the optional startup screen. This is a simple process but before you start hitting Delete make sure your backup is safely stashed away.

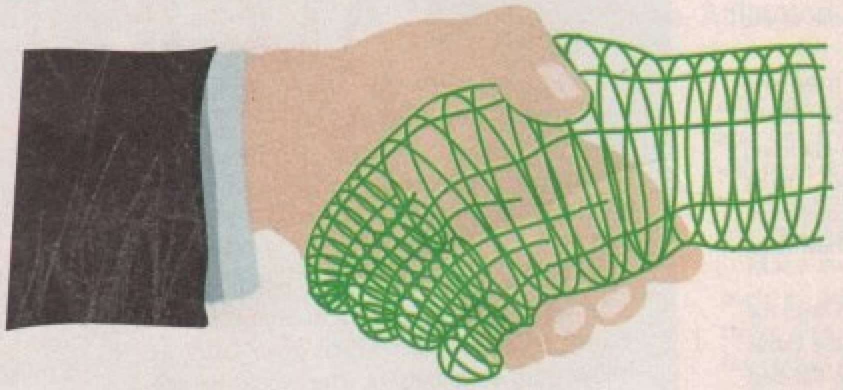
Skipping the start

You only need rename a single file in the Workstation's S: directory to do the job. To begin, open SID, then click on the DF0:, and double click on the S directory.

Now select the script file you want to use as your startup sequence. The file you choose depends on your machine, so this part of the process is entirely up to you. If you have a half meg A500, click on the file called **startup_512k_a500**, then on RENAME, and call it **startup- sequence**.

If you're using an expanded A500, go through the above steps but this time rename the file called **startup_1Mb_a500**. If you have an A1500, an A2000, or perhaps an A500 adapted to use 1Mb of chip ram, rename the file **startup_1Mb_chipram**, making sure that in both cases the new file is called **startup-sequence**.

Don't be afraid to overwrite the existing startup sequence, as it is now redundant.



Everyone has his or her favourite utility

Sacrificing the style

The next possibility for the chop is the amazingly stylish *Amiga Computing* loading screen. To be honest, after the novelty has worn off it's a prime candidate for the axe if you want to save a little loading time.

If you merely want to avoid the screen the simplest method is to select your startup sequence from the S: directory and click on Edit. When the script pops up type ; before the line **PPshow c:front******. This skips the loading screen on startup, and if you have already altered the the optional load to suit your machine the entire disk will load automatically without interruption or the need for a keypress.

If you like the idea of a loading screen but want to use your own artwork simply copy the new image into the C: directory of the Workstation but make sure the new file is called **front******.

This will overwrite the original and as long as you haven't disabled the display line in the startup, your creation will appear every time you boot.

The new file will probably be larger than the original loading screen so you may need to delete some of the document files from the Workstation. As long as you don't distribute the disk without the files it's perfectly legal to remove them.

The final image option is to delete the **front****.pp** file from the C: directory and also remove the **PPshow c:front****** line from the startup sequence. This will free yet more valuable disk space and, of course, speed up loading.

Your favourite extras

Everyone has his or her own favourite utilities and there's no reason why you can't add them to the Workstation. If you move or delete both the loading image and all the documents it should free around 110k of disk space. This will be more than enough space for several utils and adding them to the Workstation couldn't be easier.

Simply copy them into the mymenu-2 directory but make sure they have an accompanying info file. Next, go back to the root directory of the disk and double click on the S: directory, highlight **mymenu.conf** and click on Edit. When the script file appears simply move the cursor to the bottom of the list and type:

```
menu Setup "Filename   " | WB sys:Menu-
2/Filename
```

Filename is obviously replaced with the particular utility in question. The new line or lines should roughly match those already in the list so it shouldn't be too tricky. If you have any problems accessing a new utility try replacing **WB sys** with **CLI sys:**.

Now if you save the file and reboot the disk a few new faces will appear ready and waiting in the Setup pull-down menu.

Duplication dilemma

To all the confused Amiga owners who have been trying in vain to duplicate the Workstation with the pull-down menu an apology is in order. Due to my heavy use of the CLI and SID the poor pull-downs were almost forgotten when designing the disk. As a result the tool types of the Workstation disk were left blank when in fact they should have read **SYS:system/diskcopy**.

To change them, click once on the disk icon then highlight and release on info from the first pull-down. Now type the aforementioned line into the default tool types window. Click on Save and the disk will copy perfectly.

If you're a newcomer to this column you might be a little puzzled as to what this mystical Workstation disk is all about. If that's the case it's worth checking out Page 138 for details about what you're missing and how you can get in on the act.

amiga almanac

Public assembly

Insight

Margaret Stanger checks out the PD programming options

The Amiga C Club (ACC) are a non-profit-making organisation whose primary goal is to help C programmers all over the world, and to this end they have produced the disk-based Amiga Manual. ACC are only one year old, but they already have more than 100 registered members from 35 different countries.

When unpacked, the C manual and examples nearly fill up four standard Amiga floppies. This is version 2.0, an update to version 1.0 on Fish disk 337. Because of its size, it is distributed on two library disks, parts one and two on disk 456 and parts three and four on disk 457.

In the beginning

At the beginning of part one there is an excellent introduction explaining how to use C on the Amiga, and how to compile and link programs. These instructions are aimed at the Lattice C V5.10 compiler, but the example programs will compile perfectly with older versions, as well as with other C compilers.

Each chapter has several fully documented examples with source and executable code. Most of the examples use an output window to report any events occurring in the current program.

Part one has four chapters which cover Intuition screens, all types of windows, high level graphics, Intuitext and all gadgets. Part two covers most of the remaining Intuition topics, and there is an example of an alert, several requesters, menus and submenus, and all IDCMP events.

The Hints and Tips chapter explains how to make a program work on both PAL and NTSC screens, and be available either from the CLI window or from Workbench.

Part four covers the remaining graphic topics such as sprites, vsprites and low level graphics. The Dos has examples of all aspects of file handling and the tools chapter has source code for a program to print out sprite data. Miscellaneous is the heading of the chapter which contains the remaining Intuition topics like preferences, memory allocation, and double clicks with the mouse buttons.

Three short programs are included that describe how to read directly from the joystick, mouse and keyboard ports. There is a utility to help you include sound in your programs, as well as a file requester and colour requester.

At the end of the manual there are several useful appendices with details of C data types and operators and Ascii and Rawkey code lists. Full coverage is given to all the examples and functions used in the manual and one particularly welcome chapter explains the mysteries of the Guru Meditation codes.

Unpacking the disks

To do this I needed to have four disks available for formatting, and a second disk drive. I do not know whether it would be impossible to unarchive these disks using only one disk drive, or just very difficult. I suspect the former.

I am sure that a second disk drive is vital when compiling and linking C code, as the libraries, compiler, include files and linker take up a lot of disk space, not to mention the necessary Dos files.

I set up a stripped down Workbench disk as a CLI disk, as Stevie Kennedy has described in his CLI series. The system directory contained only format, and the devices that were not to be used were cleared from the DEVS directory.

I kept only run, binddrivers, ed, mount, delete, list, break, endcli, lab, diskcopy, copy, cd, execute and loadwb in the C directory. I put the CLI disk in drive 0, Fish disk 456 in drive 1, and booted up.

So far – so good

I copied the necessary Dos files to the CLI disk c directory:

```
copy df1:c/ask to df0:c
copy df1:c/if to df0:c
copy df1:c/endif to df0:c
copy df1:c/xicon to df0:c
```

The batch unpacker file and the unarchived part one manual file were copied to the root directory of the CLI disk. Luckily they fitted in:

```
copy df1:cmanual/ACM1.lzh to df0:
copy df1:cmanual/unpackdisk1 to df0:
```

I took Fish disk 456 out of drive 1 to leave the drive free for the new disk.
I typed in:

```
Execute unpackdisk1
```

pressed Return and waited. I was then asked if I had a blank disk ready, and the answer was "y". The next question was whether drive df1: was free.

When I answered in the affirmative, the disk was formatted, and part one of the manual unpacked on to the newly formatted disk.

To unpack part two of the manual on to a second blank disk I only needed to replace ACM1.lzh and unpackdisk1 with ACM2.lzh and unpackdisk2 and use the command:

```
Execute unpackdisk2.
```

Parts three and four were unpacked from Fish disk 457 in a similar way.

Using the manual

Each disk contains several chapters, each with excellent documentation, and examples with source and executable code. The documentation and source code can be read using the type command or any text editor.

The executable programs can all be run from either Workbench or the CLI. Follow the instructions in DIY/DIY.doc (part four) if you want to print the manual.

I found the manual accurate, easy to understand, and very user friendly.

The Sozobon C disk

This is disk 314 of the freely distributable Amiga software library. There were two main directories, A68k and ZC.

A68k is a 68000 assembler originally written in Modula-2 in 1985 and converted to C by Charlie Gibb in 1987. It has been converted to accept metacomco-compatible assembler source code and to generate Amiga objects and it includes source.

This is version 2.61, an update to the version on disk 186. The author is Brian Anderson – the C translation and Amiga work were done by Charlie Gibb.

ZC is a full K&R C compiler based on a port of the Atari ST version of the Sozobon-C compiler. It includes the C compiler main pass written by Johann Ruegg with fixes and enhancements by Joe Montgomery and Jeff Lydiatt, a cc front end written by Fred Fish with enhancements by Jeff Lydiatt and Ralph Babel, an optimizer written by Tony Andrews, an assembler written by Brian Anderson and Charlie Gibb, a linker written by the Software Distillery, generic include files, and a C runtime library written by Dale Schumacher and ported by Jeff Lydiatt. This is version 1.01, an update to disks 171and 193.

When unarchived, the header files in include contain all the standard c header files like "stdio.h" that go with the ZC.lib library. If however, you want to take advantage of the superb graphics in the Amiga, you will also require the include files supplied by Commodore that describe the layout of important data structures in the Amiga's operat-



Graphics can be easy with C



A personalised requester from the C manual

ing system which are normally supplied with the commercial compilers.

If you already have Lattice C or Aztec C on the Amiga, you may be able to use the include files from those compilers. If not, the include files are available from Commodore for a nominal $20 fee.

Write to: Commodore Business Machines, Software Department, 1200 Wilson Drive, West Chester, PA 19380. Ask for the "AmigaDos 1.3 Native Developer Upgrade".

The kit contains all the Assembler and C include files, the libraries, autodocs, readme files, alink, and the library offsets

The assembler

There are two unpacked text files in the directory, as well as the assembler itself in archived form. The first, a68k.doc is a text file which includes the restrictions, extensions, macro support and technical information together with details of how to use the assembler.

Readme.fnf had details on unarchiving the files, but I did the unpacking slightly differently. I formatted a new disk, and created a directory A68k for it. Using in drive 0 the CLI disk made earlier for the C manual unarchiving, I deleted the unarchived manual files from the CLI disk. With the Sozobon C disk in drive 1 type:

```
copy df1:a68k/a68k.lzh to df0:
```

With the new disk in drive df1:

```
cd df1:a68k
df0:c/lharc -x -a -m x df0:a68k.lzh
```

and the files were unpacked into the a68k directory of the new disk. In addition to the assembler, a68k, the documentation, a68k.doc, there were all the C source files for the Assembler object code, and the makefile used to compile and link it.

Sozobon C

There were several unpacked text files in the ZC directory of the disk, as well as the archive compiler (zc.lzh) and its archived source code (zcsrc.lzh). Readme.1st gave a synopsis of the files, and getting_started had details of how to set up the development environment. Readme gave the implementation notes, and readme.fnf had instructions on unarchiving the files.

I formatted a new disk, and created a directory ZC for it. I put the CLI disk in df0: and deleted any files with the extension .lzh from it. With the Sozobon C disk in drive df1:

```
copy df1:zc/zc.lzh to df0:
```

With the new disk in drive df1:

```
cd df1:zc   df0:c/lharc -x -a -m x df0:zc.lzh
```

and the files were unpacked into the ZC directory of the new disk. In addition to the text files there were several directories.

The header files in the include directory contain all the standard C header files like "stdio.h" that go with the ZC.lib library.

The libs directory includes a freely redistributable version of Amiga.lib called Ami.lib, and a fairly comprehensive freely redistributable support library ZC.lib for commonly called C functions like printf(), scanf(), strcpy().

The C directory

The C directory contained several utilities : ZC, a Kernighan and Richie compatible C compiler which generates motorola-compatible Assembler source files suitable for Charlie Gibbs' A68k assembler; a68k assembler v2.61; Blink v6.7, a freely redistributable linker; CC, a front end for the compiler that makes it simpler to compile, assemble and link programs; make is like the unix utility make; and the docs directory contained the documentation for all these.

For the source code I formatted yet another new disk, and created a directory ZCSRC for it. I put the CLI disk into df0: and deleted any files with the extension .lzh from it.

With the Sozobon C disk in drive df1:

```
copy df1:zc/zcsrc.lzh to df0:
```

With the new disk in drive df1:

```
cd df1:zcsrc   df0:c/lharc -x -a -m x df0:zcsrc.lzh
```

to unpack the source code for the compiler. This directory was found to contain source code, object code, and headers for all the utilities in the C subdirectory of the ZC directory. There was object code and a makefile for the Ami.lib, and very useful source code for the IOLIB.

I used a CLI disk with a lib directory, and put the contents of the ZC/C directory into its C directory. As always, I added a copy of my favourite text editor Qedit. I created a work disk with an include directory, put the contents of ZC/lib into the CLI lib directory and the contents of the ZC/include directory into the workdisk include directory. I added some of the Commodore include files to this directory.



Follow our C and Assembly columns every month

I added the following sequence to the startup-sequence in the S directory of the CLI disk:

```
makedir ram:lib assign ZC: df0:
copy df0:lib/ZC.lib to ram:lib
copy df0:lib/begin.o to ram:lib
copy df0:lib/Ami.lib to ram:lib
assign INCLUDE: workdisk:
include assign LIB:
ZC:lib path df0:system
path zc:c add
stack 20000
cd df1:
```

Workdisk is the disk in drive 1. You may have another name for it. If you do not have extended memory, omit the three copy statements.

I put the CLI disk in drive 0, the workdisk (with a piece of C source code called scroll.c) in drive 1, and booted up. I used the command cc scroll.c. The computer thought for a while and displayed ZC: Amiga version 1.01 Copyright(c) 1988 by Sozobon Limited, thought for a bit longer and displayed the prompt when it had finished.

An Assembler source code version, scroll.s, had been put in the ram drive. I used the command:

```
a68k ram:scroll.s
```

the computer gave me a running commentary and finished with 68000 Assembler – version 2.61 (January 11 – 1990) Copyright 1985 by Brian R. Anderson Amiga conversion copyright 1989 by Charlie Gibbs PASS 1 LINE 479 PASS 2 LINE 479 Heap usage W2047.66 Total Hunk sizes: 518 code, 88 data, 50 BSS and the object code scroll.o was waiting in the ram drive.

I used a file called scroll.lnk to link with:

```
FROM LIB:begin.o+ ram:scroll.o
TO scroll  LIB LIB:zc.lib LIB:ami.lib
```

The command was BLINK with scroll.lnk the computer displayed Blink version 6.7 15 October 1986 Copyright(c) 1986 The Software Distillery All rights reserved 235 Trillingham Lane, Cary NC 27511 BBS:(919)-471-6436 Blink complete – Maximum code size 5804 ($000016AC) bytes.

Verdict

I was very impressed with Sozobon C and the assembler. I find it useful to generate an assembly source code version of some of my C code, and I find debugging Assembler greatly aided now I have the STDIO library routines available.

I sent a copy of Sozobon C to Kevin Stevens (former sysop of the Amiga User Group bulletin board).

He said that Sozobon C was quite impressive for a piece of public domain software, and although it is not quite as efficient as Lattice, the code generated does work and it is certainly a good place for beginners to start.

Video revolution

Jason Holborn waxes lyrical on the current state of Amiga desktop video

The Amiga has been overlaying titles on to live video for years now, but only recently has it achieved the kind of mass market success – as a truly professional video tool – that it deserves. The reason for this sudden growth is simple: NewTek's Video Toaster.

Since the Video Toaster was launched on to the US video market a few months ago, the Amiga video scene has flourished and grown at a phenomenal rate. Up until quite recently, dedicated video hardware designed for the Amiga was very thin on the ground, with Amiga video engineers having to look elsewhere for "off the shelf" solutions designed more specifically for professional video production houses. And, as we all know, professional inveritably means expensive.

Already the Video Toaster has encouraged many third party developers to produce video devices that tie into the Amiga's electronics. A case in point is the Time Base Corrector (TBC).

As anyone who has seen or used the Video Toaster will tell you, it's not really of great use unless you invest in a time base corrector, a device that synchronises video sources at syncpulse level. TBCs were previously very expensive beasts – on average, you could expect a bill for a couple of thousand pounds for even a bottom-of-the-range TBC.

Obvious gap

But now, spotting an obvious gap in the market, quite a few companies Stateside have started selling what they call "personal" TBCs. In particular, Digital Processing Systems of Ontario in Canada have launched their DPS Personal TBC which comes as a plug-in card for the Amiga 2000 upwards.

For around $900 (£450), the DPS TBC offers broadcast quality time base correction. And with both Composite and Y/C (S-VHS and Hi-8) compatibility on offer, the DPS TBC is an absolute must for all Toaster users.

So what's this got to do with we PAL users? After all, the Video Toaster still isn't available in PAL format, so many of the supporting products aren't either.

Well, NewTek have already confirmed that plans are afoot to produce a PAL Video Toaster, so it seems almost inevitable that much of the equipment developed for the American Video Toaster will eventually make it to these shores in PAL guise.

Many American companies are finally catching on to the Amiga's popularity among European video engineers. These days, the vast majority of video related products are released in PAL format and NTSC version almost simultaneously.

And, with costs decreasing faster than my bank account, this is all good news for Amiga video enthusiasts. Much of the technology will be restricted to professional users to start with, but you can bet that home users will eventually be able to get in on the act.

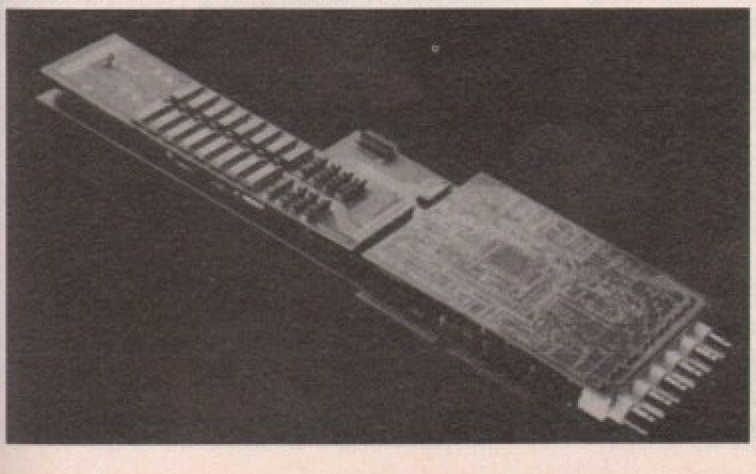
There has been much speculation as to whether NewTek will ever manage to ship a PAL Video Toaster, but it seems preposterous that the company will ignore what is undoubtedly a huge market, despite the difficulties that they will inevitably encounter. And with the amount of interest that has been generated by the NTSC video toaster, a PAL unit is virtually guaranteed success.

If we do finally see a PAL Video Toaster, don't expect it for a fair old time yet. The current Video Toaster is tied in very closely to the peculiarities of the NTSC video system, so converting it to work under PAL will be a monumental task for even NewTek's hardware engineers.

The popularity of the Video Toaster hasn't just encouraged the back room boys to get in on the act. Already several major video equipment manufacturers have started to take a serious interest in the Amiga because of its recent successes. Most notably, JVC have been taking particular interest and have already revealed that they intend being a major league player within the Amiga video market. Once JVC is in, it is almost certain that other big names such as Philips, Sony and Panasonic will follow suit.

Multimedia and desktop video are so closely related that the increased interest in this new age application is doing nothing but good for the Amiga video scene. The genlock is the most obvious item of hardware that has made the transition with ease, but multimedia producers have been crying out for more sophisticated video gear and Amiga desktop video equipment manufacturers are more than eager to satisfy demand.

It seems that America is definitely the place to be at the moment for video. Thankfully our cousins across the pond aren't leaving us, so we can look forward to some quite splendid new products including video mixers and chromakey systems. And, as always, you can bet that I'll bring you details about them all as soon I hear them.



The Video Toaster – PAL version expected, but it could be some time coming

Genlocks for all

If you're after some fairly low cost but high power desktop video equipment, then a company worth talking to are Third Coast Technologies (0257 472444). Third Coast have been distributing a variety of Amiga gadgets for years, but they've now turned their attention to Amiga desktop video in a big way. As well as an impressive range of genlocks, the company is offering PAL encoders and video splitters ideal for digitising.

Among their range of genlocks is the excellent – but tediously named – PAL Genlock from the german company Electronic Design. It offers a number of powerful features including infinitely variable fading of the Amiga-generated signal into the video picture, dissolving between Amiga graphics and the video source, an integrated RGB splitter and a PAL Encoder (nice). The genlock is available in both Y/C and Composite formats.

Other genlocks on offer are the GST range of units from the French company Satellite and Television SA. They tend to be rather expensive for what they have to offer, but if money is no object, they compare very well on features. Their basic unit costs just a few pence under the magic £200 with prices rising to around £500.

If you own a video digitiser that requires three separate exposures of a colour video source to produce a colour image, then Third Coast's DigiGold Pro may be of interest to you. It's an RGB splitter that automatically switches between red, green and blue through software without you having to fiddle around with controls.

Another product which will be of particular interest to Amiga video enthusiasts is Third Coast's CP10 PAL Encoder. If you're recoding the output from either the Amiga or a Genlock to video tape, the PAL Encoder greatly enhances the picture quality of the recorded signal. For the £130 asking price, you really can't afford to be without this device if you're serious about your home video productions.

Over the coming months I hope to review many of the video products on offer from Third Coast, but in the meantime phone Third Coast for more, on the number above.

Masquerades

Margaret Stanger brings blobs out from behind the mask of ignorance

Last month's machine code program copied a blob on to a plain black background. It was always copied to the same little rectangle on the screen. By altering just one parameter in the command used it can become much more versatile and the result more professional.

Just to recap

The BltBitMap command copies a rectangle from one bitmap to another. It is necessary to specify:

- The address of the source bitmap
- The x offset of the source rectangle
- The y offset of the source rectangle
- The address of the destination bitmap
- The x offset of the destination
- The y offset of the destination
- The horizontal size in pixels
- The vertical size in pixels
- The minterm or logic function
- The mask or combination of planes to be transferred
- The buffer used to hold information if source and destination overlap

The minterm

The minterm variable can be found by using logic equations on a source A and destination B:

```
Minterm $80 (128) :-  output = A B
```

There is only output where there is a source bit and destination bit.

```
Minterm $40 (64) :-  output = A B
```

Only put a bit from source where there is no bit in the destination.

```
Minterm $20 (32) :-   output = A B
```

Put a bit from destination where there is no source bit. This results in a source-shaped hole in the destination bitmap, which can be very useful.

```
Minterm $10 (16) :-   output = A B
```

Put a bit only where there is no bit in either source or destination. This gives rise to a few useful combinations.

```
Minterm $c0  = ($80 + $40) :- output = A B + A B
```

Put a bit from source where there is a bit in the destination, and where there is no bit in the destination. This is the vanilla copy that was used last month. The source is copied and the destination contents ignored.

```
Minterm $030  = ($20 +$10) :- output = A B + A B
```

The inverse of the source is copied straight to the destination. The original contents of the destination field are ignored.

```
Minterm $060 = ($20 + $40) :-  output = A B + A B
```

Put source where there is no destination, destination where there is no source. Useful for putting an image on a background after first putting on the image mask with a minterm of $020.

If an image has only one bitplane, the mask will be identical to the image, ie a plain image in colour 1. If there are two bitplanes, the mask will have a bit wherever there is a bit in either (or both) of the image bitplanes. This corresponds to a plain image in colour 3.

These masks could be calculated during the program run, but this would take time. I find it easier to use DPaintII to obtain the masks in colour 3 (7 for 3 bitplanes, 15 for 4 bitplanes). The diagram shows the BitMap, BMPix, which contains some blobs, and their respective masks. It is possible to overmask slightly to obtain a black line around the resulting blob, but I have not done this in the demo program.

To put the mask and picture on the screen, having calculated which blob (and corresponding mask) to use, and where on the screen to put them:

```
maskon:
  move.l  xpos,d2         ;dest x coord
  move.l  ypos,d3         ;dest y coord
  move.l  sourcexpos,d0   ;source x coord
  move.l  sourceypos,d1   ;source y coord
  add.l   #74,d1          ;y mask offset
  move.l  #32,d4          ;width
  move.l  #37,d5          ;height
  move.l  #$20,d6         ;minterm
  move.l  #$ff,d7         ;mask
  move.l  #0,a2           ;overlap buffer
  lea     BMpix,a0        ;source bit map
  move.l  graphicsbase,a6
  jsr     LVOBltBitMap(a6)
  rts
```

The routine to put the picture on the screen is similar except that there is no y mask offset to add, and the minterm is $60. The original destination contents are lost.

If the blob is to be moved around and you would prefer the background to remain intact, the rectangle under the blob should be saved first:

```
Save background to store
Put mask on screen
Put blob on screen
```

When the blob is to be moved, the background can be replaced:

```
Put background on screen in old position
Save background from new position to store
Put mask on screen in new position
Put blob on screen in new position
```

In the program I have used some of the spare space on BMPix to store the background rectangle. For multiple images, each would need its own space.

Buffer state

Ending up with four images to copy instead of one involves more activity for the blitter. I usually define a duplicate screen, or buffer, and display one screen while updating the other.

```
 add.l   #1,count
;check for odd or even cycle
 move.l  count,d0
 and.l   #1,d0
 beq     drawinbuffer
 ;update the picture in the screen

 jsr     storetoscene
 ;copy background in store to old space
 jsr     scenetostore
 ;copy new space background to store
 move.l  xpos,oldscenexpos
 ;update old screen positions
 move.l  ypos,oldsceneypos
 lea     BMscene,a1
 jsr     maskon
 ;copy appropriate mask to screen
 lea     BMscene,a1
 jsr     picon
 ;copy appropriate picture to screen
 lea     viewport,a5
;remake the display, with screen bitmap
 move.l  #riscene,d0
 move.l  d0,vp_RasInfo(a5)
 jsr     remake
;updatethe picture in the buffer
 jsr     storetobuffer
;copy background in buffer to old space
 jsr     buffertostore
;copy new space background to store
 move.l  xpos,oldbufferxpos
;update old buffer positions
 move.l  ypos,oldbufferypos
 lea     BMbuffer,a1
 jsr     maskon
;copy appropriate mask to buffer
 lea     BMbuffer,a1
 jsr     picon
;copy appropriate picture to buffer
 lea     viewport,a5
 move.l  #ribuffer,d0
;remake the display, with buffer bitmap
 move.l  d0,vp_RasInfo(a5)
 jsr     remake
 etc
```

Each screen needs its own background rectangle storage area, as the data – and the old position! – will be slightly different in each case.

For extra speed, if the background and the blobs are of three bitplanes or less, much of this hassle could be avoided by keeping the blobs and background on separate playfields. You would still probably need to use double buffering for the blobs playfield, but the masking and background storage could be avoided.

The demo program

The program on the support disks blanks out the colours, sets up BitMaps for the screen (BMscene), the buffer (BMbuffer) and the pictures (BMPix). The pictures – and masks – file piccy is read in, the colours set, and a striped background drawn in the screen and the buffer.

A blob appears which responds to joystick movements until one of the fire buttons is pressed. If the movement is downwards, the blob will have a source picture from the top row – left-hand side – and the corresponding mask.

To give the illusion of movement the feet positions change slightly each time. The left, right and up direction blobs work in a similar way.

A fully documented assembler source is included. The joystick and file reader module source appeared on the support disk of the August issue of *Amiga Computing*.

COMING SOON. . . The timer port, game timing, and random number generation.

Musical notes

Whether you tinkle with Trax or mess around with Music-X, it's worth listening to Jason Holborn

Is it or isn't it? That's the question on everyone's lips at the moment. We are, of course, referring to Microlllusions' Music-X sequencer system which was supposedly put on ice by programmer Dave Joiner in favour of his work on the CDTV. Much confusion surrounds Music-X at the moment – seemingly nobody knows whether the product is alive or dead.

Officially Microlllusions UK are insisting that Music-X 2.0 is still very much a reality, but even they admit that the unofficial line is far from clear. Microlllusions had promised to start shipping Music-X 2.0 last February, but that deadline has come and gone with virtually no explanations being offered by Microlllusions Stateside.

Even their UK operation admit that they've heard virtually nothing about the new release. Indeed, they don't even know what new features are to be added.

Whether all this is just a classic case of crossed lines remains to be seen but it seems there may yet be a ray of hope for Music-X owners. It would be a great shame for Microlllusions to drop what has become one of the most important music-related products yet produced for the Amiga.

In its current guise, Music-X is hardly serious competition for such industry hard hitters as Steinberg's Cubase on the ST and Passport's Performer system on the Mac. But if Music-X 2.0 does deliver the features we have been promised – Realtime score editor, drum pattern editor, arrange page, etc – we can look forward to a bright future for the Amiga music market.



Nobody seems to know for sure whether Music-X has bitten the dust, but at least Microlllusions have released a range of new Protocols for it

The first protocol

Still on the subject of Music-X, you'll be pleased to learn that Microlllusions are putting the finishing touches to a range of protocols for the Music-X librarian page. They've been an awfully long time coming but Microlllusions have finally honoured their obligation with protocols that cover no fewer than 13 different manufacturers.

Looking through the list you'll probably notice that there are still a few blatantly obvious omissions. For starters, the range of Yamaha synths is far from comprehensive.

With Yamaha's new SY series of synths accounting for the vast majority of synth sales, there's not a single protocol for the SY77, the 55 or even the 22. As for the Korg protocols, it's nice to see support for the M1 – the keyboard that I use! – but what about Korg's latest synths like the T3 and the WaveStation?

Oh well, I guess technology advances at such a frightening rate these days that it would be almost impossible to cover every new synth released.

Anyway, below you'll find a rundown of the new protocols. You can find out more about both Music-X 2.0 and these protocols by phoning Microlllusions on 0480 496497.

Sound audition

Following hot on the heels of its new 12 and 16-bit sampling cards for the Amiga 2000, SunRize Industries (phone UK Distributor HB Marketing on 0753 686000) have announced the impending release of a major new product for those of us still tinkering with the aged 8-bit sampler.

Audition 4 is a powerful new 8-bit sample editor that – as SunRize themselves claim – "continues where AudioMaster III left off". Like the original AudioMaster, Audition 4 doesn't come with its own sampler. Instead, it has been specially designed to work with just about any sampler under the sun, including SunRize's own – and highly recommended – Perfect Sound 3.

Due within the next couple of weeks, Audition 4 sells for the same price as AudioMaster III. The difference, though, is that not only is the program smaller (just 100k!) and far more efficient, but it boasts features previously unheard of in an Amiga sampling package. How's this for starters?

DISK RECORD I'm not quite sure how the Amiga's poor old floppies will cope, but SunRize claim that Audition 4 allows you to sample direct to floppy and also, presumably, to hard disk. This way, even if you're still living in the dark ages with nothing more than a 512k A500, you can record samples of up to 800k on to floppy and multi-megabytes using a hard drive.

SAVE EXECUTABLE Have you ever wanted to hear a sample but couldn't be bothered to load your sample editor? Well, with Audition 4 you can save samples as executable programs. Once saved, all you have to do is "run" the sample and it will be played.

Obviously this then renders the sample incompatible with the IFF 8SVX standard, but Audition 4 still fully supports both RAW and 8SVX file formats.

REALTIME EFFECTS M-M-Mix your own chart hit with Audition's built-in digital effects. These include echoes, high pass filtering, low pass filtering, band pass filtering, stop band filtering, mix, fade, flange, VU meter and oscilloscope.

POWERFUL EDITING Of course, the usual cut, copying and pasting features are supported, but Audition 4 adds keep, invert, filter, echo, mix, fade, treble adjust, bass adjust, smooth, DC removal, resample and tune. All this is backed up by an incredibly fast scroll and zoom facility.

NEXT MONTH... Hopefully next month I'll be bringing you a comprehensive review of Blue Ribbon Bakery's new Bars & Pipes Professional. With just about every sequencing tool you could ever wish for, Bars & Pipes looks good, very good.

Oh, and of course I'll be bringing you even more gossip from the Amiga music scene. Can you stand the wait?

New Music-X protocols

ALESIS	QuadraVerb.Patch
OBERHEIM	M12.Multi/Single Matrix-6.Master/Split/Voices/VoicesII
CASIO	CZ-1.Voices CZ-1000.Voices VZ1.Multichannel
OPCODE	OpCode.StopWritingSMPTE/WriteSMPTE
DIGITAL MUSIC CO.	MX-8.Setups
EMU	Proteus.Patch
KAWAI	K1-II.Allblock/OnceMulti/OneSingle K1.Single/Multi Klr.Single/Multi K3.Voices/VoicesII K4.Drum/Effect/Multi/Single K5.Voices
KORG	DS-8.AllCombiDump/BulkDump/Voice.Single DS-8.Voice1/Voices M1.Combi/Prog/Voices P3.CombiDump
ROLAND	D-110.Voices/VoicesA/VoicesB/VoicesC D-5.Tones/KludgeTones D-50.Voices GP-16.Voices MKS-50.Voices MT-32.Patch/Timbres S-10.Voices TG55.1elVoices/2elVoices/3elVoices U-220.Voices
ENSONIQ	VFX.DumpMulti/Prog
YAMAHA	DX-100.Voices DX-7(32).Voices DX-7(TX81Z).Voices DX-7.SpecialBulk/SpecialVoices DX-7.Voices/VoicesBulk32 DX-7II.MicroTuningBuff/MicTunEdBuff DX-7II.Performance32/PerformanceBuff DX-7II.ScalingBuffer/SystemSetUp FB-01.Config/Voices TX-802.Bulk/Voices TX-81Z.Voices/BulkEffect/BulkMicTunKbd TX-81Z.BulkMicTunOct/BulkPerformance TX-81Z.BulkProgChg/BulkSystem/BulkVoice TX-81Z.Bulk1Voice/Performance/Voices

Package deal

Everyone has their favourite comms package. Eddie McKendrick fights JR Comm's corner

It is incredibly difficult to find a decent commercial comms package for the Amiga. There are probably two reasons for this. Firstly, the comms community is perceived as a small market, and secondly, some of the PD and shareware offerings prove very difficult to better.

Take, for example, JR Comm. Now on release 1.02, this package offers features at least on a par with even the most expensive of commercial packages.

Most people I speak to claim that JR is too complex to use. What they actually mean is that they haven't sat down and configured it properly. A look at its massive selection of pull-down menus will confirm to anyone that JR Comm has a lot to offer. Setting it up properly is more a case of common sense than comms black magic.

First steps

Before getting down to JR Comming, the first thing to do is set the modem parameters. Once that is dealt with, JR Comm can at least be used as a dumb terminal with nothing more than agile digits and your modem's command set.

However, to get the best out of JR Comm, some time really should be spent on customising it for each of the services you call regularly. There are the obvious serial settings to worry about like data/stop bits, parity and the like.

Beyond that, JR Comm can be customised more than most comms packages. Take some time out to look at the "General" setup parameters. Very sophisticated features like a split review buffer, auto captures, macros and call logging are at your disposal, should you choose to configure them.

It is a true chameleon of a package. Whatever system you are calling, JR Comm can pretend to be the correct type of terminal. Standard emulations include TTY (dumb terminal), Amiga, IBM, VT100 and the scarce and slow but graphically interesting Skypix. The only major omission from the range of emulations is Viewdata. Prestel is the only significant service which employs this chunky teletext style format, so it's no great loss.

Capture the moment

One of the most valuable and underused features of any good comms package is the ability to capture an entire online session to an Ascii file. Ascii capture may not be as sophisticated as offline mail readers or custom front end programs, but it is accessible to everyone running JR Comm. It doesn't depend on any special terminal support from the host either, so you can be sure it is going to work.

Ascii send is even less frequently used but is potentially one of the most valuable features JR Comm offers. Using this facility it is possible to send a prepared Ascii file down the line, character by character. If you can't see any immediate advantage to this feature, you don't send many long E-mail messages and you certainly don't play multi-user games. With Ascii send, getting to a specific location on Shades or Trash is a simple matter of running the required Ascii file as soon as the game resets.



A whole host of features is at the disposal of anyone willing to spend some time pointing and clicking



Configuring JR Comm for each service you call saves a lot of time in the long run



JR Comm will bend over backwards to accommodate almost any host

Next month

More Micronet monthly and all the latest comms news and views

Micronet monthly

Ant Purvis is first with the news

Micronet is an entity that most agree resembles a large computer magazine – even so, that description doesn't come close to describing the service fully.

For the sake of argument, start with how a magazine covers news. A quick glance through the first few pages of Amiga Computing reveals the news, and plenty of it, but it doesn't take much to work out that what you're reading was not written the day before you bought the magazine.

If Commodore cut the price of the Amiga to £199 tomorrow, you wouldn't know until the next issue of Amiga Computing was published. This is where Micronet comes in.

Micronet's news service, and indeed the Amiga Microbase specifically, has an advantage. When news breaks, some well-informed reportage can be written – outside office hours or at weekends, in some cases – which can be electronically "published" online within the same hour.

The quick fix

Micronet is ideal for a "quick fix" of news. Paper publications like Amiga Computing have a more subtle advantage with more detailed reports and photographs which back up stories and make them much more understandable. As a graphic example, the impact of a new Amiga bundle launch is conveyed much more effectively by a photograph than an Ascii list of what it comprises.

Micronet also lets you answer back. Let's say you have a comment on a fast-breaking piece of news – you can send a message back to Micronet, very often to the same person who wrote the feature. They can reply to you in the same way. As the medium in which you are communicating is electronic, your message arrives as soon as it is sent – literally.

In my opinion

There's very little news about which someone, somewhere on Micronet doesn't have an opinion. The opinion of the 'netting masses almost always gets aired, guaranteed to cause much discussion from other Micronetters.

At the end of the day, electronic mediums like Micronet, and indeed other services like CompuServe, give you the power to interact and discuss in a way that is simply unique. Take now – you could write directly to me on Micronet, and you could well have a reply back within the hour. (That would be a first – Ed.) If you're on Micronet already, all you need is my magic number – 703630221.

Shooting stars

Star trekkin' da dum dee dum... Peter Hickman takes you on another trip deep into the Amos zone

Do you fancy creating a simple scrolly starfield that you can use in your latest hit mega-game? Starfields have been around on computers for a few years now – I remember seeing a starfield demo on my old 8-bit Atari! – and programmers have come up with some really freaky ways of shifting those stars.

For the purpose of showing you the basics, though, I'll keep it simple and boring. The starfield we are going to do is a single colour single plane – no fancy parallax – scroller from right to left.

Before we do any programming, let's think about how to do it. First we need a set number of stars, each with a pair of co-ordinates so that the program knows where to stick 'em.

OK, then let's start by declaring a numeric array containing 50. This gives us 25 stars with 1 array element for the X co-ordinate and 1 array element for the Y co-ord.

```
Dim COORDS(50)
```

The next step is to calculate the co-ordinates for each star and store them in the array accordingly. First, we should make sure that Amos has a random "seed" to start producing reasonably random numbers. There is a good reason for this!

You see, a computer cannot really produce true random numbers, it always bases the calculations it makes on a given "seed". If this seed is the same, the computer will always return the same random number.

For a practical example of this try creating an autoboot Ramos disk which loads a program that just does a ? RND(5). You will find that the same number is always produced.

So, we will give Amos a random seed depending on the current state of the Timer variable. This is a special variable which starts off at zero when Amos first loads and is then incremented 50 times per second.

```
Randomize Timer*Rnd(33)
```

Sorry if I sounded a little bit confusing back there, but when trying to understand Amos and the Amiga it does help to look at the cause rather than jumping straight in with a cure. The following section of code will store some random positions for the stars:

```
For LOP=1 To AMOUNT Step 2
 COORDS(LOP)=Rnd(320)
 COORDS(LOP+1)=Rnd(200)
Next LOP
```

Our next job is to open a screen on which to stick those funky stars. To keep things nice and simple we will just use two colours on the screen. Later I will show you an example of a scrolling starfield that uses four colours to give a better effect.

```
Screen Open 1,320,200,2,Lowres
Flash Off
Cls 0
Palette $0,$FFF
Double Buffer
Autoback 0
```

Now for the tricky bit. We must start off by setting up a repeat/until loop:

```
SCR=Screen Width
Repeat
```

Clearing the screen is the next job. You will have noticed that when the screen is opened an AUTOBACK 0 command is executed which tells Amos not to switch the logical (hidden) screen with the physical screen automatically when something is written to it:

```
Cls 0
```

With me so far? Surprise, surprise, we now get round to actually drawing the stars on the screen:

```
For LOP=1 To 50 Step 2
Plot COORDS(LOP),COORDS(LOP+1),1
```

A little complicated bit now – moving the stars. All we need to do to move them from right to left is to change the X co-ordinate. In this case we will deduct 5 from the current co-ordinate. The ADD command lets us wrap the stars around the screen. Ain't Amos nice?

```
Add COORDS(LOP),-5,0 to SCR-1
```

Finally, we end all of the loops that were set up earlier in the program and swap the logical (hidden) screen to the front:

```
Next LOP
Screen Swap
Wait Vbl
Until False
```

Well, that's a nice program but hardly impressive is it? What we really need is to have some shaded stars moving in a sort of layered – or parallax – effect. We could use the Amiga's unique Dual Playfield screen mode, but there is a nicer way of doing it. Unfortunately I don't really have enough room to explain how this one works but I am sure that with the information you have learnt from the first program you should be able to work it out.

```
Dim COORDS(50)
Randomize Timer*Rnd(33)
AMOUNT=50
For LOP=1 To AMOUNT Step 2
 COORDS(LOP)=Rnd(320)
 COORDS(LOP+1)=Rnd(200)
Next LOP
'
Screen Open 1,320,200,4,Lowres
Flash Off
Cls 0
Autoback 0
'
SCR=Screen Width
For LOP1=1 To 310
 C=1
 Cls Logic(0)
 For LOP=1 To AMOUNT Step 2
   If LOP>15 and LOP<29 Then C=2
   If LOP>28 and LOP<40 Then C=3
   If LOP>39 Then C=15
   Plot COORDS(LOP),COORDS(LOP+1),C
   COORDS(LOP)=COORDS(LOP)-(LOP/4)-1
   If COORDS(LOP)<0 Then COORDS(LOP)=SCR-1
 Next LOP
 Screen Swap : Wait Vbl
Next LOP1
```

Stop press!

News time. Due to a few last-minute delays, Amos 3D is still not in the shops – at the time of writing. I have been assured that the delay is due to minor improvements rather than bug fixes. Well, that's a relief!

The Amos Compiler should have been in your shops for a couple of weeks now. I have not had a chance to test the very final version fully, but I reckon it must be worth buying just for the injection of speed that it will give most programs.

Try it on the starfields for a nice taster! Fortunately, due to the totally legal way the latest version of Amos (1.3) and the compiler were written, they will now work on any base Amiga machine including the CDTV.

On another note, Aaron Fothergill, proprietor of the Amos Club, has been busy writing a new version of his Tome map editing extension to work with the compiler as well as an exciting new extension called Ctext.

This little marvel lets you cut out fonts from IFF ILBM pictures ready for use within your own programs, using the commands provided. It's a little bit fiddly to use at first but as well as allowing you to use fonts of any size or colour they are also a hell of a lot faster than those Deluxe Paint type fonts.

In fact, I am making extensive use of the little thing (it's only 2k!) to write the enhanced CDTV version of Fun School 3 5-7s (plug, plug, go out and buy it!).

You can find out more about Tome or Ctext by ringing Aaron on 0743 23544 – remember to mention me! – or by ringing the amazing Sandra Sharkey at the Amos PD Library on 0942 495261. Have fun.

See you next month.

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D045 ARSE WIPE ADVERT. He, he, he, very funny
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D050 THE X-MAS SONG (2 Disks) (XXX) Hilarious
D052 WE WANT SOME PUSSY RAP (XXX) No comment, he, he
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D060 EDDIE MURPHEY DELIRIOUS (2 Disks) (XXX) Funny!
D061 EDDIE MURPHEY DELIRIOUS 2 (2 Disks) (XXX) Funny!
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D076 OBSCENE 3. Even more dirty phone calls
D077 GOOD MORNING VIETNAM. Yippee
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D086 HARD CRACK GRAPHICS. Nice music & piccys
D088 SILENTS MEGADEMO. Brill loader, just get it
D092 GOLDFIRE MEGADEMO. Get this or else!!!!!!
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D167 KNIGHT ANIM. Good stuff
D168 HORIZON MEGADEMO. Good
D169 BUDBRAIN MEGADEMO 2. Get it now!!!!!
D174 NEWTEK 1 (2 Disks/2 drives req.) Fantastic
D176 JASPER CARROT. Fans only
D177 NEWTEK 3 (2 Disks/2 drives req.) Yahoo!
D178 OBSCENE 1. The first of the series
D181 NASA PICS. Good slideshow
D184 DRAGONS LAIR 2 (1 Meg) Check it out
D185 WRATH OF THE DEMON DEMO (1 Meg)
D186 TEAM SUZUKI DEMO. Rolling demo of game
D187 BATMAN THE MOVIE (1 Meg) Good funny anim
D188 DEMONIAK DEMO (1 Meg) Good stuff
D189 SIMPLE STUFF. Good demos
D190 IRAQI DEMO (1 Meg) Very, very good
D191 COOL CARS. Amazing pictures
D194 PROLOGIC PARTY TIME. Sit back & be amazed
D205 WALKER 1 (2 Disks/2 Meg) The big one
D206 WALKER 2 (2 Disks/2 Meg) Another big one
D207 EQUAMANIA 2 & DRUNKEN SKULLS. Good
D209 TRON ANIM (2 Disks/1 Meg) Amazing, Brill
D217 SLYCATH DEMOS 1. 5 cool demos
D222 MAGNETIC FIELDS HYSTERESIS. Fantastic
D223 HAM INVASION. Amazing pictures
D224 ANARCHY SYSTEM VIOLATER. Mega cool
D225 SLYCATH DEMO COMP 2. 6 brill demos
D226 CRIONICS TOTAL DESTRUCTION. Brill
D228 TOP GUN DEMO (2 Meg/2 Disks) Good
D229 PHENONENA MEGA DEMO II, Brill!!
D231 2 Disks KGB MEGA DEMO, Amazing!
D237 SILENCE GLOBAL THRASH, Awsome
D243 SCOPEX DEMO DISK 132, 1 Meg includes a cool Simpsons demo

GAMES

G001 STAR TREK 3 (2 Disks) The Best
G002 SPACE BLITZ, Cool
G003 RETURN TO EARTH, Space trading!
G004 ADVENTURE GAMES, Text Adventures
G005 YELP, Arcade Game
G006 BREAKOUT CONSTRUCTION KIT, Good
G008 BOARD GAMES, Monopoly etc
G019 MIXED GAMES
G010 WHEEL OF FORTUNE, Like TV Prog
G011 YAHZEE, Popular dice game.
G014 BUCK ROGERS, Shoot-em-up
G015 STAR TREK (3 Disks/2 Drives Req) Cool
G016 TENNIS (1 Meg) Includes speech
G017 PSEUDO COP GAME, ED209
G019 PARANOID, Breakout game
G020 TRAIN CONSTRUCTION SET, Good fun

MUSIC

M002 ROGER RAMJET RAP. Long & good
M006 HE SWEARS A LITTLE BIT (2 Disks/2 drives req.)
M011 D-MOB MUSIC 2. Cool music
M012 D-MOB MUSIC 4 (2 Disks) Good music
M013 ENEMIES MUSIC 3. Some great music
M014 REBELS MEGABLAST. Robotic style tunes
M020 NEWTONS MUSIC DISK. Great equalizers
M021 KYLIE MINOGUE " MADE IN HEAVEN" (2 Disks)
M022 AMIGA CHART MIX 3. Good music
M023 TITAN TRAX 1. Great, beaty music
M024 CRUSADERS FREEKED OUT. Well ard disk
M025 H.C.C. JARRE SHOW. Get it
M026 AMIGA CHART MIX 5. More brill music
M028 COMIC STRIP. Nice silly songs
M029 D-MOB MUSIC 3. Good stuff
M030 VISIT TOXTETH. Take a trip to Toxteth
M031 POPEYE MEETS THE BEACHBOYS. Funny
M033 DEREK & CLIVE (2 Disks/XXX) Funny
M034 TOTAL REMIX (2 Disks) Very funny
M035 DIGITAL CONCERT 2. Get it now!
M036 DIGITAL CONCERT 3. Get this as well!
M037 DIGITAL CONCERT 4. And this!
M038 DIGITAL CONCERT 5. As above
M039 DIGITAL CONCERT 6. As above, as above
M040 RAF MEGA MIX 1. Cooool!!!
M042 BAT DANCE REMIX. Nice
M045 MIAMI VICE REMIX. Good
M048 SOUND ATAX. Plenty of good tunes
M049 BEN ELTON. Very funny
M051 POWER REMIX. Nice disk
M054 SOUND OF SILENTS. Good stuff
M055 GET UP. Cool long sample
M057 D-MOB MUSIC 1. Good
M061 DEPECHE MODE MUSIC. Fans only
M062 RAVE BY HACKTRICK (1 Meg) Acccidd
M064 SOUND ATAX 2. 10 cool songs
M070 SCOOPEX'S BEAST MUSIC. Brill
M072 H.C.C. MUSIC DISK 1. Very good
M075 100 GREATEST C-64 TUNES. Brill
M077 BOMB THE BASS. Well ard
M081 FLASH (2 Disks) by Queen
M091 4-MAT MUSIC. Cool music by 4 MAT
M102 DEBBIE GIBSON (2 Disks) Electric Youth Sample
M105 ALIEN NATION. Aural Ectasy. Good beaty stuff.
M112 JARRE REVOLUTIONS. Cool Jarre Music.
M114 BETTY BOO! Just doing the do.
M116 LAND OF CONFUSION by Genesis
M120 HEAR THE DRUMMER, Get wicked
M121 BAND AID 2 (2 Disks) Long sample
M125 RAF Megamix 2 (2 Disks) Mega Cool
M126 AMIGA CHARTS 2. Nice music mix.
M127 AMIGA CHARTS 6. Very Good
M134 MIAMI VICE THEME (4 Disks). Very long
M136 LAUREL & HARDY (2 Disks/2 Drives). Fans only
M138 SIMPSONS - DO THE BART MAN (3 Disks) Cool
M140 MADONNA, Justify my Love. Good
M141 DIRTY DANCING. Nice music sample
M142 AMAZING TUNES 2 (1 Meg/3 Disks) Brill, Get it.
M143 TWIN PEAKS THEME, Fans only
M147 JARRE LIVE. 11 cool songs
M154 DON'T TOUCH IT. Funny song
M156 POWER OF LOVE (2 Disks) Long sample
M157 808 STATE REMIX, Good weird music
M158 STUDIO MUSIC 1, 15 cool tunes
M159 STUDIO MUSIC 2, 12 cool tunes
M160 STUDIO MUSIC 3, 11 cool tunes
M161 STUDIO MUSIC 4, 12 cool tunes
M162 STUDIO MUSIC 5, 12 cool tunes
M163 STUDIO MUSIC 6, 17, yes, 17 cool tunes
M164 STUDIO MUSIC 7, 15 cool tunes
M165 STUDIO MUSIC 8, 9 cool tunes
M166 STUDIO MUSIC 9, 15 cool tunes
M167 STUDIO MUSIC 10, 11 cool tunes
M168 STUDIO MUSIC 11, 14 cool tunes
M169 STUDIO MUSIC 12, 16 cool tunes
M170 STUDIO MUSIC 13, 13 cool tunes
M171 H.C.C. MUSIC Disk 2, Includes ED TH DUCK.
M173 CRUSADERS DOES GENESIS, Fantastic
M174 SILENTS - Blues House (2 Disks) Get this Now.
M176 SPACED OUT 2, Wicked

UTILITIES

U002 U-EDIT WORD PROCESSOR - Good stuff
U004 SOUNDTRACKER COLLECTION (3 Disks) Brill
U006 COPY & CRACK TOOLS, Handy
U008 DARKSTAR UTILS 6, Boots, Copiers & Packers
U009 DARKSTAR UTILS 5, Rippers, Virus Utils & More
U010 GHOSTWRITER & RAINBOW WRITER, Make your own demos
U012 MEGA UTILS, 175 Utils & some Docs
U014 FLEXY BASE, Powerful Database
U015 GRAPHICS UTILS, Sprite editors & Docs
U016 C MANUAL (3 Disks) Complete programming language
U020 DOPE INTRO MAKER, Good stuff
U021 ULTIMATE ICON DISK, Lots & Lots of Icons & Editors
U023 WARRIORS CRUNCHER DISK, Loads of packers
U024 SID CLI UTILITY, Very Very Good
U025 M CAD, Computer Aided Design
U029 BACK UP UTILITY, Copier
U030 GAME MUSIC CREATOR, Soundtracker look-a-like
U031 SPEEDBENCH, Faster loading Workbench
U032 FONTS VOL2, Loads of good fonts
U033 CLIP ART FONTS, Use with your art packages
U038 ALPHA FLIGHT DEMO MAKER, Needs CLI knowledge
U039 AMIBASE 3.76, Cool database
U040 FONTS VOL1, Load of fonts
U042 FONTS DISK, Even more cool fonts
U043 R.I.M. DATABASE, Good
U044 MOBED, MOveable OBject EDitor, Coo
U047 JAZZBENCH, Better workbench
U048 VC SPREADSHEET, Good
U059 CLIP ART, Use with art packages
U062 ULTIMATE COPY & VIRUS KILLER DISK, the best
U063 CLIP ART, Animals, carton, people & more
U064 CLIP ART, Transport, people, buildings & more
U065 PAGESETTER CLIP ART, B&W art, works with art packs
U066 C-LIGHT (1 Meg), Ray tracing package
U069 NORTH 'C' 1.3 (2 Disks), The latest version
U070 PASCAL, PCQ 1.1
U071 METALION UTILS, Font designers & more
U072 RIPPERS DISK, The best rippers disk around
U073 SAMPLE EDITOR, Good
U074 SOUNDTRACKER, 8 Channels, Wow!
U075 TECHNO HIP HOP SAMPLES, Use with Soundtracker
U076 MASTER VIRUS KILLER 2.1, The latest version
U080 ST03, Instruments for Soundtracker
U081 ST04, More Instruments for Soundtracke
U082 ST06, Even more Instruments for Soundtracker

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Links and connections

Let Margaret Stanger put some style into your type

Let's face it, alphabets can be boring. Once in a while it is nice to look at a different set of letters. I am not suggesting Greek, Cyrillic or even Kanji – just Roman characters with a slightly different look. This can all be arranged. Using the Amiga library routines and stored data, letters of all shapes and sizes are available.

There is an Amiga library routine to write text at the graphics cursor position:

```
Text(rastport,textstring,number);
```

where rastport is the pointer to the RastPort used for drawing, textstring is a pointer to the start of the phrase to be written, and number is the number of letters in the phrase.

If text is being written in a window, it is fairly easy to find the RastPort address. When using low level graphics it is necessary to initialise a RastPort using InitRastPort, and attach the bitmap. The text string is stored in Ascii format, 32 for a space, 48 for 0, 65 for A, etc. all the way up to 127.

In memory there is a font that contains a dot pattern for all these characters, and information about their height and width. With proportional fonts, this information can become very complex.

The Text routine would look at the first character in the string (say 65), and copy the corresponding dot pattern (A) on to the screen. The graphics cursor horizontal position would give the horizontal start to the letter, this cursor position would have increased afterwards by the width of the letter, ready for the next one.

The vertical cursor position is always to be the baseline for the letter. This baseline corresponds to a line on a piece of lined writing paper. The text is level, with all the letter bases on the line and only the descenders – like the tail on lower case "g" – below it.

```
rp = Wdw->RPort;
 /*RastPort address of window*/
SetAPen(rp,1);
 /*sets the foreground pen*/
Move(rp,0,50);
 /*Move cursor to baseline*/
Text(rp,"text string",11);
 /*write the 11 characters "text string"*/
```

The dot patterns can be displayed normally, or with the double dots (bold), the baseline drawn (underline), the letters slanting (italic) or any combination of these styles. Each style has its own flag. It is possible to use the Include files, rather than remembering all the numbers. The command:

```
SetSoftStyle(RastPort,styleflags,enable)
```

can be used:

```
/*set text style to bold*/
void bold()
{
SetSoftStyle(rp,FSF_BOLD,255);
}
```

The font that has been called up is the default font, topaz 8, which is stored in rom. Topaz is the name of the basic shape of the letters, and their height is 8 pixels above the baseline. Another font stored is topaz 9 – there is a just noticeable difference, the letters are slightly bigger.

To get a pointer to the topaz 9 font, we fill in an "application form" with the text attributes of the desired font. The OpenFont command returns a pointer to a font with the right name and the nearest size, if it is available. The SetFont(RastPort,FontPtr) command sets the RastPort font pointer to the chosen font.

```
topaz()
{
TextAttr.ta_Style=FS_NORMAL;
/*reset the style to normal*/
TextAttr.ta_Flags=FPF_ROMFONT;
/*ROM font*/
TextAttr.ta_Name="topaz.font";
/*font name*/
TextAttr.ta_YSize =  9;
/*font height*/
FontPtr = (struct TextFont *)
OpenFont(&TextAttr);
/*find font pointer*/
if (FontPtr==0)
{
printf("sorry squire, no topaz font");
return(1);
}
SetFont(rp,FontPtr);
/*set the font*/
return(0);
}
```

Something more exotic

In addition to the rom fonts there are several others stored in the fonts directory on the Workbench disk. Each has a header with the font name and sizes available, and a subdirectory with the dot pattern details for each size.

For the garnet font:

```
fonts/garnet.font is the header
fonts/garnet/9 is the details of the garnet font,
size 9
fonts/garnet/16 is the details of the garnet font,
size 16
```

To obtain a pointer to one of these fonts, the command OpenDiskFont(TextAttr) is used in a similar way to the command OpenFont for a font stored in rom:

```
garnet()
{
TextAttr.ta_Style=FS_NORMAL;
TextAttr.ta_Flags=FPF_DISKFONT;
/*disk font*/
TextAttr.ta_YSize=16;
TextAttr.ta_Name="garnet.font";
FontPtr=(struct TextFont *)
OpenDiskFont(&TextAttr);
/*find font pointer*/
}
```

The font can be set, and the style changed as for a rom font. The OpenDiskFont command is in the DiskFont Library, which is usually in the LIBS: directory of the system disk. This library has to be opened before either of its commands (OpenDiskFont and AvailFonts) can be used.

There are several things that can go wrong when dealing with disk-based commands or data. First, the DiskFont Library may be in the wrong place at runtime, making obtaining its pointer impossible.

The fonts directory should be in place when the disk is booted up, and at runtime. It is possible to check whether the fonts directory is in place during the program run. The routine sysdisc() returns a value of 0 if the fonts directory is in place and a value of 1 otherwise.

```
struct Lock *rootlock;
rootlock=(struct Lock *)
Lock("df0:fonts",ACCESS_READ);
if (rootlock==0) return(1);
UnLock(rootlock);
return(0);
}
```

The directory may be present and correct, and the chosen font AWOL, in which case a graceful exit is needed. I also found when writing the text demo on the support disk that all the usual syntax errors, misspellings and other bugs are available to the creative programmer.

There are many fonts available. Some are named after jewels and stored on the Workbench disk, some are named more prosaically and stored on the Extras disk. Many are on PD disks. There is certainly no need to construct your own font, pixel by pixel.

Unfortunately the text routines can be a little slow, so when speed is important it is better to put the chosen letters on a DPaint screen, read them in as a BitMap, and use BltBitMap to put them on the screen.

The program

The program on the support disk demonstrates text fonts and styles. The program exits with a message if the diskfont library fails to open, this usually happens if the file df0:libs/diskfont.library is absent. The program exits with a message if the directory df0:fonts is missing.

A window is opened and a menu offers three mutually exclusive text styles; a text string is redisplayed each time the style or font is changed. Three of the gadgets are for a topaz 9 ROM font (boring), a sapphire 14 Disk font (gothic script), and a garnet 16 Diskfont (a bit weird).

If the font is not available, a message will be on the calling screen and the text will not change. The executable code and source for the main program and for the gadgets should all be in the code clinic directory.

The diskfont library should be in the LIBS: directory, and the garnet and sapphire fonts in the FONTS: directory, if space is available on the support disk. If the support disk is too full of other goodies you can utilise the Workbench copies of these files.

COMING SOON... Input and output with a Console Port

Clearing up a few points

What does mutton have to do with dashes? Barnaby Page explains a few of the truths hidden deep in DTP parlance

In the interests of mutual understanding, meaningful exchange of ideas, European harmony and all that, *Amiga Computing* presents a cut-out-and-lose guide to the real definitions of some DTP terms.

BLEED

Official definition: A picture that bleeds is one that goes right out to the edge of the paper, and the bleed area of a page is the entire page after trimming.

Real definition: A bleeding picture is so called because it's always cut off in the wrong place.

DASH

Official definition: There are two kinds of dash in common printing use, the em dash and en dash. An em dash is the width of the letter m at the same point size, an en dash is half that. Dashes – which are used to separate parts of a sentence like this – are quite distinct from hyphens, which create a joined-up word like this. Avoid the typist's device of using two hyphens — to create a dash as this is unnecessary in DTP, where proper dashes are available.

Real definition: Ems and ens are also called "muttons" and "nuts", which says a lot about typesetters, really.

FACE

Official definition: There is endless pedantry over the respective definitions of "typeface" and "font". When people get tired of the argument they generally agree that a typeface is a particular design – as in "Stanley Morison designed the typeface Times Roman" – which can appear in many different sizes, weights and so on.

Real definition: If only we could change our own faces that easily.

FAMILY

Official definition: A type family is a group of faces (so far, so anthropomorphic...) based on the same design but rendered differently – for instance, the members of the family Times include italic, bold, bold italic, small capitals, and so on.

Real definition: If only we could change our own families that easily.

FONT

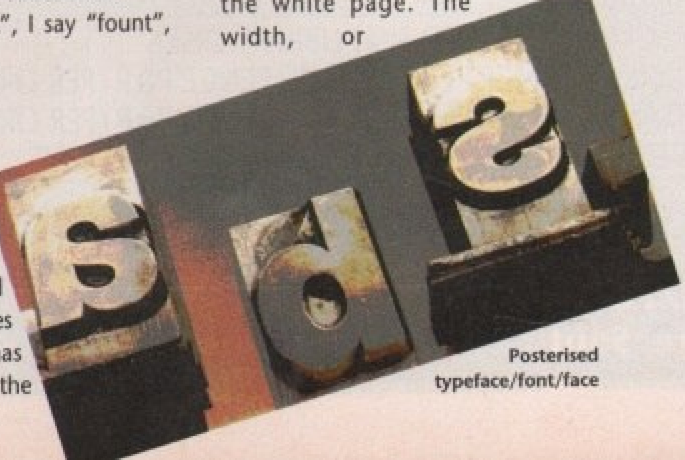
Official definition: A font is a particular weight of a particular face, such as 72pt Times Bold.

Real definition: You say "font", I say "fount", let's call the whole thing off.

LEADING

Official definition: As every schoolperson knows, the term "leading" derives from the old days of hot metal typesetting, when smooth lead would be inserted between lines to make a blank space. This has led to some confusion between the old school and the new. In the hot-metal era, text set 12/14pt would be referred to as "12pt with a 2pt lead", because only 2pts of blank lead had to be used. However, most DTP packages use the term to mean the total distance between baselines, so 12/14pt text has a 14pt lead.

Real definition: Lead's poisonous, too.



Posterised typeface/font/face

POINT

Official definition: A point is both a measure of distance on a page and of type size. It's about 0.014 inches or 0.35 millimetres. Twelve points make a pica.

However, just in case we thought it was easy, a 72pt letter is not 72 points high, or wide, or anything else. Capital letters in most faces have an actual height between 60% and 75% of their alleged point size.

Real definition: The French Didot point is a different size again. It gets worse...

POSTERISE

Official definition: This is more or less what Andy Warhol did to Marilyn, though the origin of the term is unclear. Posterisation occurs when an image containing shades – whether of grey or colour – has the number of different shades reduced.

The most common, and trendy, example is that of a two-level grey posterisation, in which anything under 50 per cent grey becomes white and anything over becomes black. (This is a great way of jazzing up an indifferent picture).

You can have posterisation to four, eight, 16 or any number of levels, but the more levels there are, the less noticeable the result will be.

Real definition: Moderation in all things.

RULE

Official definition: Rules, or ruling lines, are used to make the design of a page explicit by separating columns, keeping different articles apart, and so on. They are also used around pictures and tinted boxes to emphasise the shape and to stop colours from appearing to run into the white page. The width, or weight, of a rule is measured in points: a 3pt rule is 3pt deep. Rules are normally single unbroken lines, but they can be dashed or used in combination – thick and thin rules together are called Oxford rules.

Traditionally, rules were purely functional, but in the last couple of decades designers have started to use them as key elements in the distinctive look of a publication.

Real definition: There to be broken.

SEPARATION

Also called "process colour"

Official definition: In printing it would be unfeasible to have different inks for every colour that appears on a page, especially in colour photographs. Instead, nearly all colours are made up from a combination of cyan (blue), magenta (red), yellow and black, abbreviated to CMYK. Before you ask, the K stands for "key", for reasons lost in the mists of time.

In separation, software analyses the content of each colour on the page, and outputs four pieces of printer's film, one for each of CMYK. The magenta film, for instance, will be heavily shaded in areas of the page which use a lot of magenta.

Although colour-separation capabilities are still rare in DTP, they've become more common in the past couple of years.

Real definition: What can very often happen between DTP designers and their spouses/significant others.

SPOT COLOUR

Official definition: A spot colour is a single colour used in addition to black in a publication. It can be used in different shades, from very light (about 10 per cent) to solid (100 per cent), but the colour itself can't change. It's a lot cheaper to print than process colour and on colour computer printers is usually the only option.

Real definition: Usually red.

VIGNETTE

Official definition: Vignetting is a difficult, but achievable, technique in which the edges of a photographic image or tinted area are "faded into" the background of the page, rather than stopping abruptly. It can't be done in page design software, but requires an image-processing package.

Real definition: I'd prefer salad cream.

Barnaby Page is editor of PrePress magazine and a DTP consultant. He can be reached on CIX as 'prepress'.

ORBITAL

PUBLIC DOMAIN

ALL DISKS ARE 99 PENCE

DEMOS

OPD005/ Puggs In Space
OPD009/ Predators Megademo (2)
OPD010/ Deathstar Megademo (2)
OPD011/ Triology Megademo (2)
OPD012/ Alcatraz Megademo 4 (3)
OPD013/ Kefrens Megademo 8 (2)
OPD023/ Vangelis Demo (*)
OPD028/ Newtec Demo Reel 3 (2) (*)
OPD048/ Avenger Megademo
OPD057/ Starline Demo
OPD059/ Vision Megademo 4
OPD070/ RAF Megademo (2)
OPD078/ Budbrain Megademo (2)
OPD080/ RSI Megademo (2)
OPD082/ Rebels Megademo 2
OPD095/ Kylie Demo (2)
OPD102/ Cryptoburners Megademo 2
OPD105/ Madness Demo
OPD118/ Crionics Megademo
OPD119/ Turtlemania Demo
OPD120/ Fraxion Horror
OPD127/ Robocop Demo
OPD130/ ITV Demo
OPD131/ Clapping World Demo
OPD132/ Rebels Megademo 6
OPD134/ Dexion Megademo
OPD139/ Cool Cougar Demo
OPD143/ Treacle Megademo (3)
OPD145/ Flash No-Brain No-Pain (2)
OPD147/ Flash Hit The Road (2)
OPD157/ Computer Worlds Demos
OPD158/ Sam Fax Big Bobs
OPD172/ ESA Demo Collection 6
OPD173/ Megadeath Demo
OPD183/ Kefrens Megademo 7
OPD200/ Safe Sex Demo
OPD213/ Warriors Demo Comp 4
OPD217/ Turtle Power Demo
OPD218/ Cave Party Demos
OPD263/ Crionics Total Destruction
OPD264/ Budbrain Megademo 2
OPD268/ Fillet The Fish Demo
OPD269/ Horizon Megademo
OPD270/ Scoopex Chromium Demo
OPD279/ Hatrick Rave Demo (*)
OPD319/ Sadham Hussein Demo
OPD353/ Total Recall Demo
OPD367/ Addams Family Demo
OPD396/ Vision Megademo 2
OPD425/ Amos Demo
OPD441/ Simpson Demo By Decay
OPD493/ Fashionatting Demo

GAME DISKS

OPG015/ Star Trek Game 1 (2) (*)
OPG017/ Blizzard (Good Game)
OPG025/ Frantic Freddie
OPG026/ Computer Conflict
OPG044/ Space Invaders
OPG100/ Yahzee Dice Game
OPG107/ Eatmine Game
OPG108/ Emerald Mine 3
OPG187/ Pseudo-Cop
OPG207/ Drip Game (Brill) (*)
OPG210/ Eatmine 3
OPG220/ Star Trek Game 3 (2)
OPG229/ Bionix 2
OPG245/ Flashbier Game
OPG271/ Mayhem Cavern Game
OPG274/ Marble Slide Game
OPG371/ Learn And Play 1
OPG372/ Learn And Play 2
OPG373/ Talking Colouring Book
OPG411/ Return To Earth
OPG444/ Missile Command Etc
OPG451/ Games Galore 5 (Pac-Man)
OPG453/ Arcade Games Disk
OPG492/ Larn P.D. Game

ANIMATION DISKS

OPA034/ The Run (Police Chase) (*)
OPA179/ Raiders Of The Lost Ark (*)
OPA198/ Walker Demo 1 (*)
OPA199/ Walker Demo 2 (*)
OPA272/ Batman The Movie
OPA387/ Luxo Teenager (*)
OPA450/ Fleet Maneuvers
OPA454/ Hacl Animation Disk
OPA481/ Cokeman & Smurf Demos
OPA489/ Wrestlemania Demo (2)

SLIDESHOW DISKS

OPS004/ Nasa Pictures
OPS007/ Sun Slideshow
OPS159/ Madonna Slideshow
OPS204/ Demons Slideshow 3
OPS216/ Robocop 2 Slideshow
OPS222/ Kim Wilde Slideshow
OPS236/ Sam Fox Slideshow
OPS357/ Flintstone Slideshow
OPS392/ Debbie Gibson Slideshow
OPS393/ Michael Jackson Slideshow
OPS490/ Silents Slideshow Disk

MUSIC DISKS

OPM024/ Digital Concert 2
OPM036/ D-Mob Music 4 (2)
OPM038/ Digital Concert 3
OPM039/ Digital Concert 4
OPM043/ Electric Youth D. Gibson
OPM046/ Michael Jackson Bad
OPM053/ Crusaders Bacteria
OPM110/ Amiga Charts 5
OPM112/ Madonna Spanky
OPM177/ Digital Concert 5
OPM190/ D-Mob Music Disk 3
OPM191/ Betty Boo
OPM211/ Pink Floyd The Wall
OPM234/ Mean Break Machine 2
OPM235/ New Order Music Pack 2
OPM243/ Glideascope 4
OPM252/ 808 State Remixes
OPM256/ Glideascope 4 The Making
OPM257/ Glideascope 2
OPM267/ Groove In The Heart
OPM273/ Banging Raves (*)
OPM275/ Amazing Tunes 2 (3)
OPM276/ Madonna Vogue (4)
OPM277/ Vision House
OPM282/ Dragnet 12" Remix
OPM296/ RAF Megamix 1
OPM300/ Acid & Coma Demos
OPM315/ 100 Of CMB64 Music
OPM316/ Disco Fever
OPM355/ Sonix Jukebox 14
OPM356/ Erasure Demo
OPM369/ Jungle Command 2
OPM375/ RAF Megamix 2 (2)
OPM376/ Dynamite Beats 4
OPM377/ Crusaders Does Genesis (*)
OPM378/ Alcatraz Music 3
OPM383/ Sunwind by Accession
OPM467/ Wizzcat Pentti Music Disk

UTILITY DISKS

OPU099/ Soundtracker/Noisetracker (4)
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OPU115/ Demolisher Disk 209 Utils
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OPU162/ Bootbench V2.0
OPU168/ Flexibase Database
OPU169/ Jazzbench
OPU247/ Master Virus Killer
OPU258/ Ultimate Utilities
OPU259/ Dope Intro Writer
OPU304/ JTS Music Utility Disk
OPU307/ Mad Monks 101 Utils
OPU343/ Ripped To Shreads
OPU374/ Sid-CLI Utility
OPU394/ Space Writer (Demo Maker)
OPU435/ Protracker Util
OPU468/ Crusaders Utility Disk 6
OPU478/ Archivers Utility Disk
OPU486/ Label Designer
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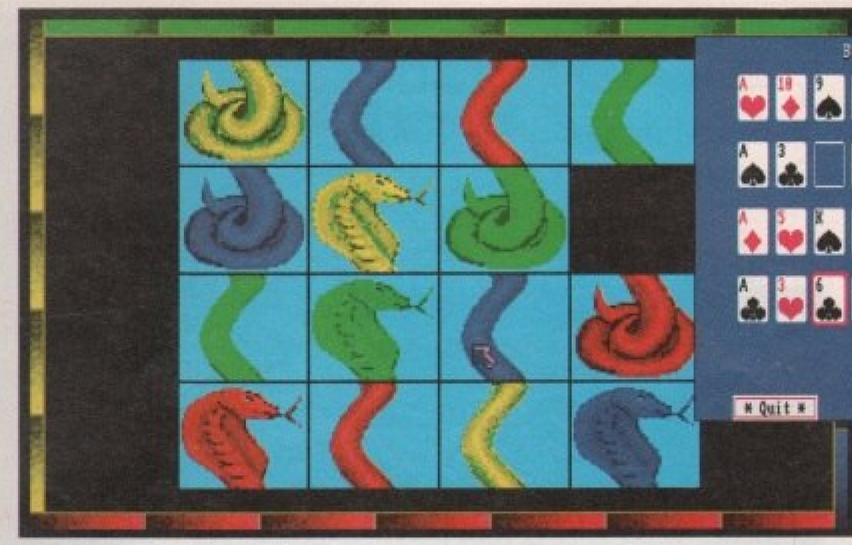
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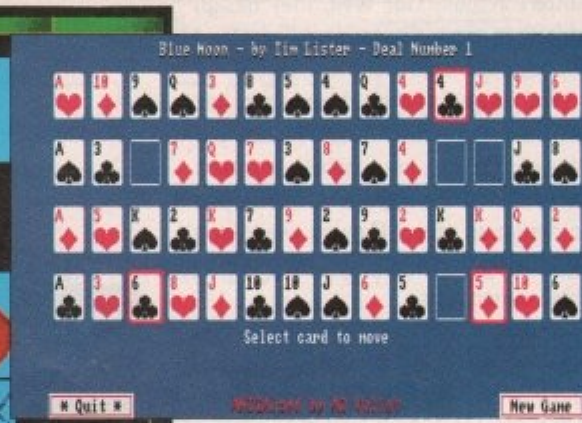
L001 Colouring Book (*)
L002 Arc Angles Maths (*)
L004 Thingamijig (*) Game
L005 Jungle Bungle (*) Game
L006 Pukado (*) Game
L007 4 Way Lynx (*) Game
L008 Work And Play (*)
L009 Amos Assembler
L010 The Word Factory (*)
L011 Go-Getter (*) Game
L012 Hypnotic Land (*) Game
L013 Jigmania (*) Game
L014 Play It Safe (*)
L015 Shapes And Colours (*) Game
L016 Reversi 2 (*) Game
L017 Dogfight (*) Game
L018 Touchstone (*) Game

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Snakes alive! You could easily get bitten by Cobra. Above, patience is the name of the Blue Moon game

PUBLIC DOMAIN

Pete Bullock digs deep for buried PD treasures

The scene has taken a rather tumultuous dive in the last few months, one from which I hope it will recover soon. Most of the software around at the moment is not really of much value to the user of a talented machine like the Amiga. The libraries are overflowing with demos and animations which, while rather pretty and involving clever programming techniques, are generally useless.

Some libraries, I believe, are more interested in making a fast buck than in gaining a great reputation for supplying quality material. They shall remain nameless as I would rather not be sued for libel, but I shall leave it to you to come to your own conclusions.

"So what have you dug up for us this month?" I hear you cry. Well, be prepared for some curious and interesting programs and games. Even among all the rubbish there are, if you're prepared to search diligently, rewards to be had for your time, effort and money.

Strictly what?

Strictly PD have come up with some great utilities and entertaining games software this month. On disk #E210 you'll find Blue Moon, a patience-style card game.

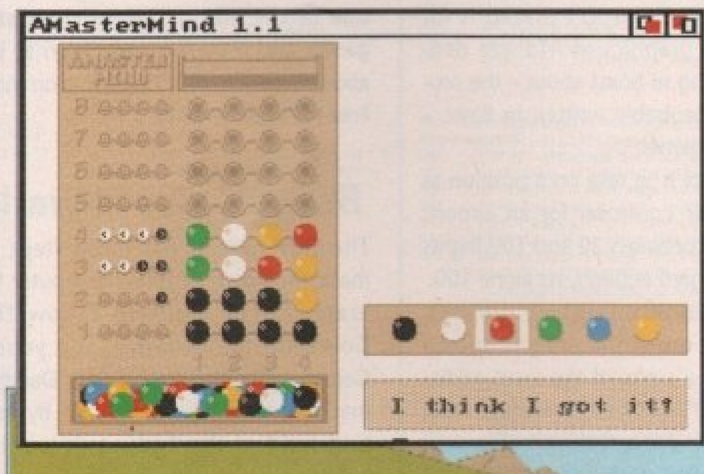
You have to arrange the four suits of a full card deck in ascending order from ace up to and including the king. This is not as easy as it first appears. It is nearly impossible to finish the game in one deal and you may find that you need seven or eight deals to complete it.

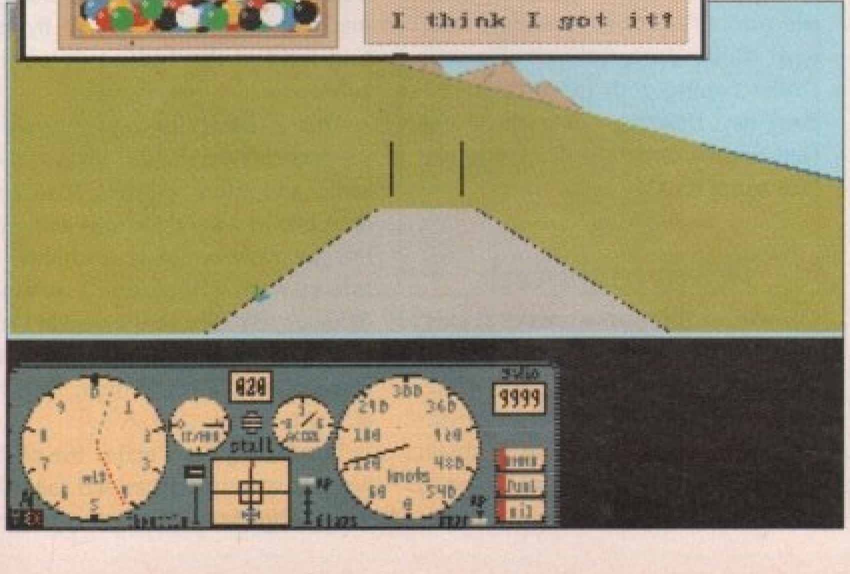
Also on this disk are Cobra, Shorties and Air War. Cobra is a tile game like those where you must arrange the numbers in ascending order. This time it's a picture of four Cobras. There are some restrictions on moving the tiles around and it isn't easy. Definitely one to keep your attention.

Shorties is a MasterMind clone. Remember the MasterMind of the early '80s? If you don't, then the object is to guess the colour of the four pegs your opponent has chosen. You are given hints as to whether you have chosen the right colour or whether it is sitting in the right place.

Air War is a flight simulator. There is a subtle difference between it and most flight sims, though. I believe it is an American program which you play against other players while connected by modem to a network. I'm not too sure about this because the documentation isn't clear, but there are options to change the settings of your modem and DTE – although they weren't available while I was playing the game.

Maybe it's just an option you're allowed to have, like Flight Simulator II, so you can play with friends. It just isn't clear from the documentation.

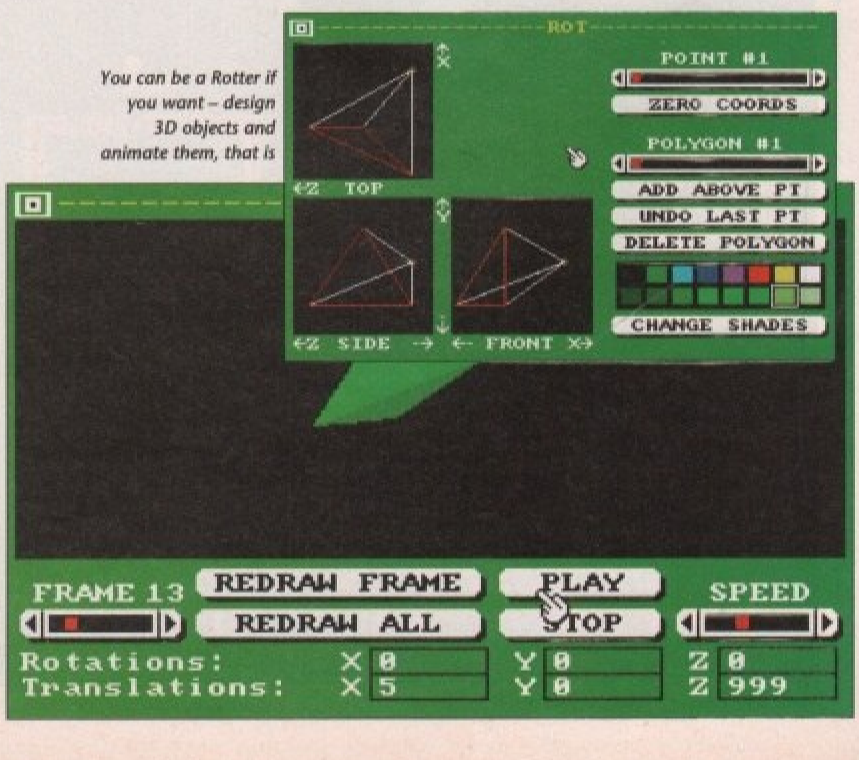




Shorties (left) is a Mastermind clone, while you can play air battles against others via your modem with Air Wars

Rotter

A new generation of person has arrived. They are known as Rotters. What do ➤



You can be a Rotter if you want – design 3D objects and animate them, that is

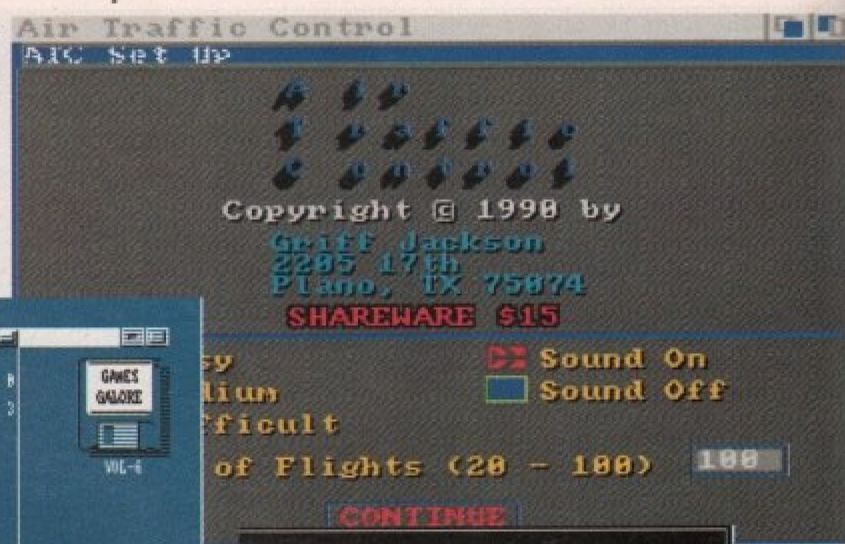
Rotters actually do? Well, they design objects in three dimensional space and produce animations of their objects.

You can be a Rotter if you want. Just get hold of Strictly PD disk #U228 and you can Rot to your heart's content using the ROT program. It allows you to design an object like you would in a ray tracing package, and animate it in three dimensions.

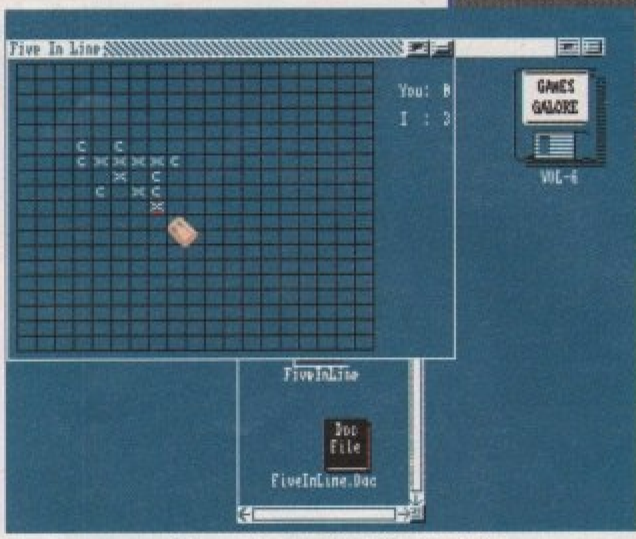
You have three windows and various views of the three dimensional plane, and you position a dot at various places within each window to build up your object.

The windows have a different view of the object, from front, side and top. Each point of your object has three co-ordinates x, y and z. It's quite confusing at first but you'll get the hang of it if you persevere.

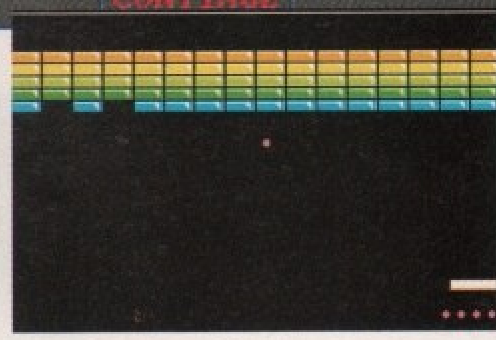
Once you have built your object you can animate it by loading in one of the pre-programmed animation files and watch it tumble, roll and rotate. It's an interesting one that I believe has been around for some time. To contact Strictly PD you'll have to write to 11 York Place, Brandon Hill, Bristol, BS1 5UY.



Air Traffic Control – unremarkable graphics, but what a game!



Five-in-a-row – a variation on the noughts and crosses theme



SB is another Breakout clone

Games Galore

The first Games Galore offering, Jumpy, is infuriatingly addictive. To score points you have to collect the bones that are scattered around the various levels. There are some nasties to contend with and because it's so damned hard you're supplied with nine lives. I don't think Jumpy is a cat though, more a smiling face that bounces around the screen.

It's quite hard at first but once you get the hang of it you're in for some fun. There is a level editor which adds to the enjoyment, the graphics are pleasant and the music is not too bad. Some tunes get on your nerves after a while but the boinging of Jumpy doesn't.

C-Robots is an intriguing game, and if you program in C or similar languages you might find it quite appealing. The idea is to write the operating system for a robot. You are supplied with various routines for combat and movement and must construct a program to knock out or kill your opponent's robots.

"C-Robots is an intriguing game, and if you program in C you might find it quite appealing"

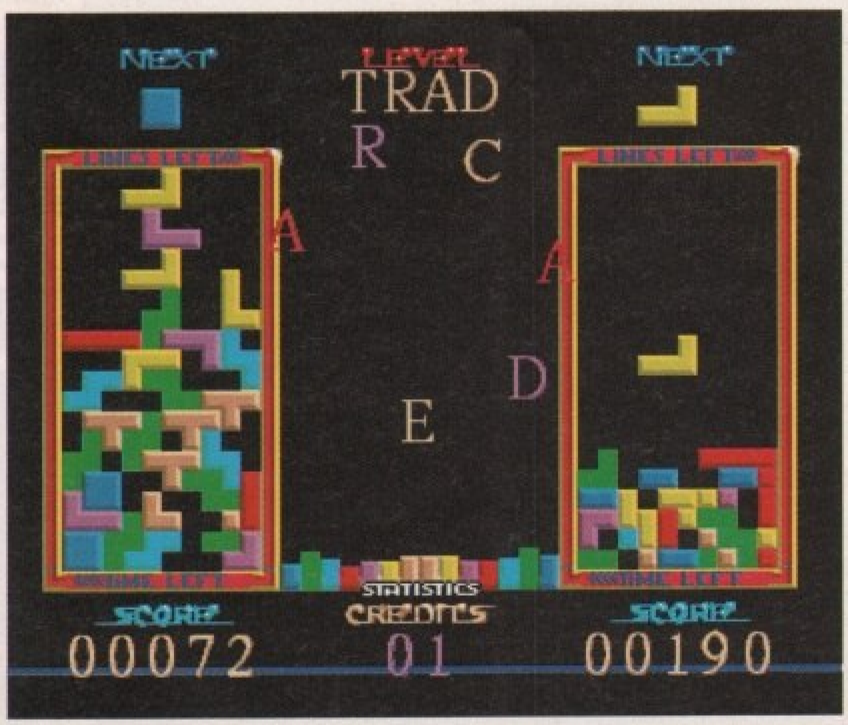
If you don't have any programming skills, then this game is probably not your cup of tea, but the programmers among you will find this an unusual way to pass an evening. So invite the programming team round, get the Project Leader involved and have a good night's programming at your Amiga's expense.

Other games on this disk include yet another Breakout clone called SB, and Five-in-a-row which is a variation on noughts and crosses – the exception being that instead of making three in a row you have to make five. Workbench graphics and no sound with this one I'm afraid.

Probably the best game on this disk is Air Traffic Control. I played it for hours. The graphics of ATC are definitely nothing to boast about – the program was probably written in Basic – but what a game!

The object is to take on a position as the air traffic controller for an airport. You control between 20 and 100 flights – and 20 is hard enough, let alone 100.

Despite its very, very basic graphics, and limited use of the Amiga's speech synthesizer, it's one of the most addictive games I've played, ever! Just think what it's like for a real air traffic controller coping with more than 100 every day! Definitely not a job for the faint-hearted. Order the disk just to get your hands on ATC.



Twintris is a two to ten-player version of Tetris

Tetris revisited

Chances are that you've seen or already have Tetris but if you've never seen it, it's definitely worth buying. Tetris is one of the success stories of recent times. First written for the PC two or three years ago it has blossomed and is available on many formats. Funnily enough, when I tried to purchase a copy of Tetris for my Amiga it was not available so I bought the Nintendo GameBoy version just for this game. I have been scouring the PD disks for a version for some time and now I've found a very good implementation.

Twintris, as it is called, is a two to ten-player version of Tetris. The object is to fit blocks of differing shapes and sizes together to make horizontal lines. A friend of mine wrote a version of this in Modula-2 at college to run on Sun MicroSystems workstations but when the faculty found out everyone was playing it, it was removed from the system. Shame!

The graphics are rather colourful, movement is smooth, and a nice tune accompanies the action. Tetris must be one of the all-time great computer games and if you've never seen it, it's about time you did. Twintris is on Virus Free PD's disk #1631.

Beware kids at work

The Government has taken steps to make the youth of today computer literate. If you want to follow the Government's initiative, and young Gerald is allowed to play with Daddy's machine, then you might start by getting hold of the Talking Colouring Book.

This is basically a program for younger children to assist them in their verbal and artistic pursuits. Most children like to colour pictures and with this you might be able to teach them to talk as well, if they don't already. Although, on reflection, I wouldn't recommend it – they may end up with an intonation like the Amiga. Horrific thought.

The Talking Book makes use of the Amiga's speech facilities and talks the user through from introductory stage to ➤

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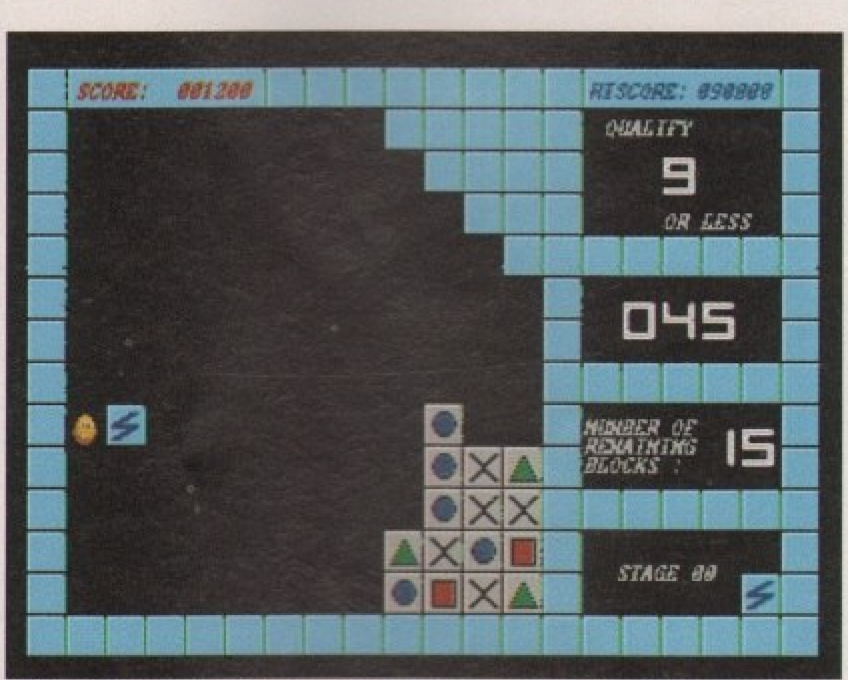
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Block It – good game, shame it's so hard to understand

actually getting involved with painting pictures. It's quite user-friendly and shouldn't pose a problem for youngsters with a little computer knowledge. Daddy could always keep a watchful eye over them, though, so his precious machine does not suffer any melted ice cream stains or succumb to gratuitous violence.

The Talking Book is available from Virus Free PD on disk #1548. They're at 23, Elborough road, Moredon, Swindon, Wiltshire, SN2 2LS.

Cop this

You've marvelled at those demos, you've thought, "He's got to grips with vector algebra", you've been amazed at those colourful backdrops and wondered how it's all been done. Well now you can do it for yourself with AmigaNuts United's Copper Writer. The Copper chip is a piece of the Amiga's hardware that allows you to write values into the machine's hardware registers at certain raster times. This may mean, for example, changing the background colour to red at the top and blue at the bottom. Well, with Copper Writer it's made a lot simpler with a nice user interface and keyed commands.

If you want to use your backdrop creation in your own programs you'll have to wait a while because the author hasn't got round to allowing users of Copper Writer to do this yet. But you can save the file and soon there should be another program to allow you to "do it yourself".

Block It

Block It on Virus Free PD's disk #1511 is a good game but I still don't fully understand it. I think the idea is to remove blocks of the same pattern as the one the creature holds in the game. Well, it's more of a spud than a creature.

You fire your block and it eradicates similar blocks leaving others untouched. A doc file here would have been nice but because it isn't run from Workbench they didn't supply one. That really infuriates me. You get a game but no docs. A real pain in the butt.

Budget tracing

If you read last month's article about ray tracing and Senlac Software's program 3D Master, you might be interested to know that the commercial release C-Light has just been released into the public domain. It was originally on sale at around the £60 or £70 mark but the author has decided to place it in the public domain.

C-Light is quite a sophisticated package and contains a scene editor, scene generator and an animation program, so you can create your own ray traced animations easily, and best of all, cheaply. I have to say that although the quality of the renderings is not up to the same standard as 3D Master, it's still well worth a look.

If you're seriously interested in ray tracing you could do no better than to check this out. C-Light is available on Seventeen Bit Software disk #1111 and you can give them a ring on 0924 366982 for more details.

Icon magic

If you want to design your own icons but don't have the icon editor that was on the coverdisk some months ago, then you might like to get hold of Icon Magic on disk #U613 from NBS. You can do all the usual DPaint-like operations such as flip, mirror and magnify, and you edit the icon within a window ➤

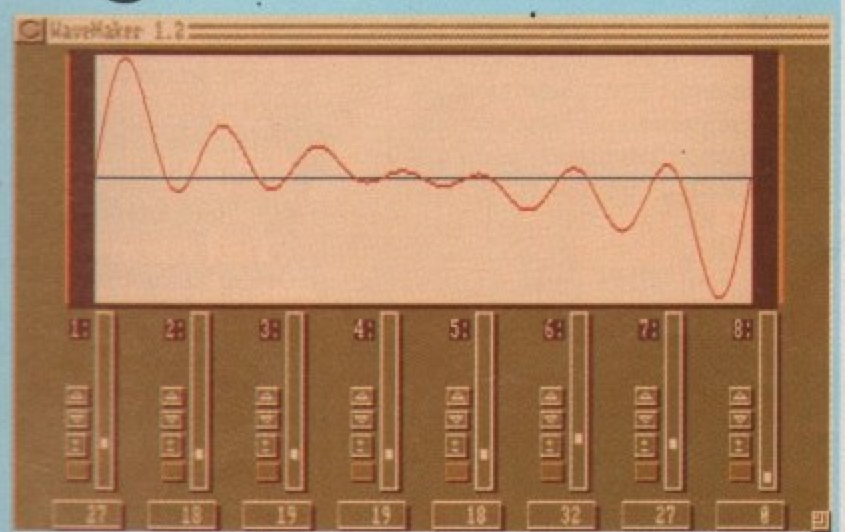
Fishing for disks

While I was searching through the heaps of PD I came across an interesting program that wouldn't be out of place in a disk box labelled "Curiosities". Drawmap can construct a map of the world relatively quickly.

It is similar in style to the Globe program which was submitted to this magazine aeons ago. But this one is much more involved, allowing you to specify a point around which the map is drawn – anywhere from the Greenwich meridian to Antarctica. It operates in Interlace but the colours have been chosen specifically to eliminate most of the flicker, and it works quite well.

There are three choices of map to draw, and you can zoom in and out of the picture. Options to enter text and draw lines are available, allowing you to place your own points on the map with headings, and a shadow effect is also supplied.

DrawMap is available on Fred Fish disk #485 along with a terminal emulator and card game thrown in for good measure. The program was released on earlier disks but has been much improved.



Making waves

There is plenty of Midi utility software around in the public domain and on Fish Disk #481 there's more! If you have more than just a passing interest in computer music, and you own a Kawai K1 synth, you might be interested in this librarian.

I don't profess to know a great deal about Midi but if you're looking for a patch editor and librarian this disk is the one to get. Also included is yet another version of Tron light cycles, and Wavemaker, with which you can make complicated waveforms then play the resulting sound output on your keyboard. It's a bit like WonderSound which was reviewed a couple of months back.

On Fish disk #482 this month are two rather technical programs for those either studying chemistry to degree level or who have an interest in astronomy.

Universities equipped with graphics facilities have for a long time been using their mainframes to model the structures of molecules. If you understand atomic structure you might be pleased to know you can now do the same on your humble Amiga. Not only can you play terrific games, you can model molecules as well. Incredible!

With Molec3d you can edit a file that contains the positions of the molecules in space – which you obtain from X-ray photography – and then the Amiga displays your molecule in 640 x 512 resolution and full colour. You can translate and rotate the molecule in three dimensional space just as you would with a powerful graphics workstation, but only in wire frame mode.

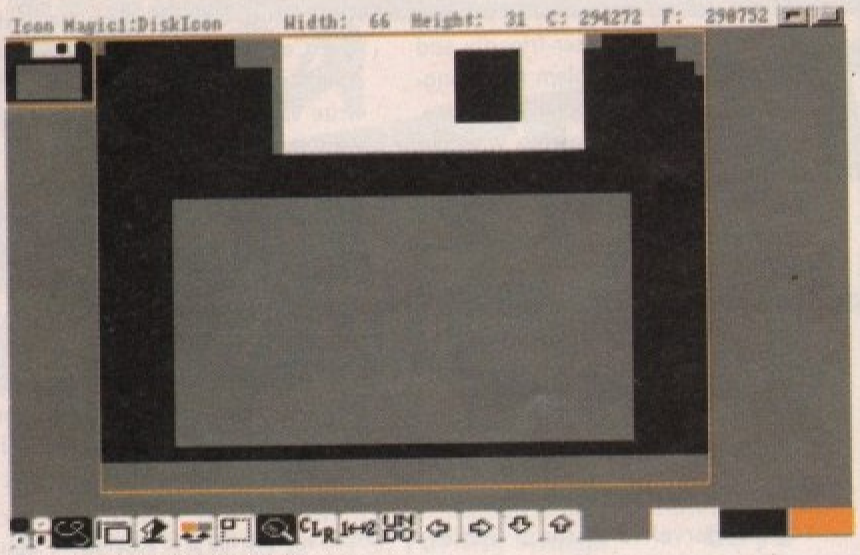
The program takes about 10 to 30 seconds to display your molecule, depending on the number of atoms in it. You'll need at least one megabyte of memory for this one.

Starry eyed

Ephemer is also on this disk and allows you to determine exactly where in the sky the planets and sun will be at various dates and times. This is useful if you want to observe Venus in the night sky, for example. So if you like astronomy and can't be bothered to make the lengthy calculations yourself, this is a must.

Fish disk #484 contains a small program which enables you to display your own IFF format picture file instead of the hand holding the blue disk when you turn your machine on or reset it. It's quite simple to do, taking only one command line, and you can specify the colours you want fading in and out.

And finally there is Spright, a sprite editor. You can design and attach sprites so you have more than the usual three colours plus background. The data can be saved to a file. In addition there is an IFF file viewer which is reputed to be one of the fastest available.



Icons made easy with a little magic

on the screen. If you have some artistic flair, get Icon Magic from NBS. Their address is 132 Gunville Road, Newport I-W, PO30 5LH. Sorry, but I don't have a phone number for them.

Schizoid

There have been many programs around for a while now which enable you to use MSdos disks with your Amiga. Dos-2-Dos is probably the better known of any and is a useful program. MessyDos has now arrived which is similar to Dos-2-Dos except that the functional aspect of it is rather limited.

MessyDos allows you to read MSdos formatted diskettes and you can transfer PC files to Amiga format and vice-versa. MessyDos allows you to use the same Amiga disk commands as you would for normal AmigaDos diskettes. Commands like "dir","list" and so on. There are no facilities for formatting MSdos disks with your Amiga though.

To read an MSdos disk, MessyDos uses its own device file. The MSdos device is used by calling the device MSH: and mounted as standard. There is a mountlist entry on the disk for the drive and you use it by just typing Mount MSH:.

The good thing about MessyDos is that you can use MSdos diskettes in the same drive you use for Amiga diskettes, so you don't need an additional disk drive. If you issue a dir command and the disk in the drive is not AmigaDos format, the Messydos device takes over and assumes it is an MSdos formatted disk.

You could make use of Messydos when using a modem, and could transfer PC files to PC bulletin boards, although why you would want to I don't know. If you use an Amiga you'd stick to Amiga BBS's surely? But if you had access to a PC you could download PC files from the bulletin board and then transfer them to your PC format.

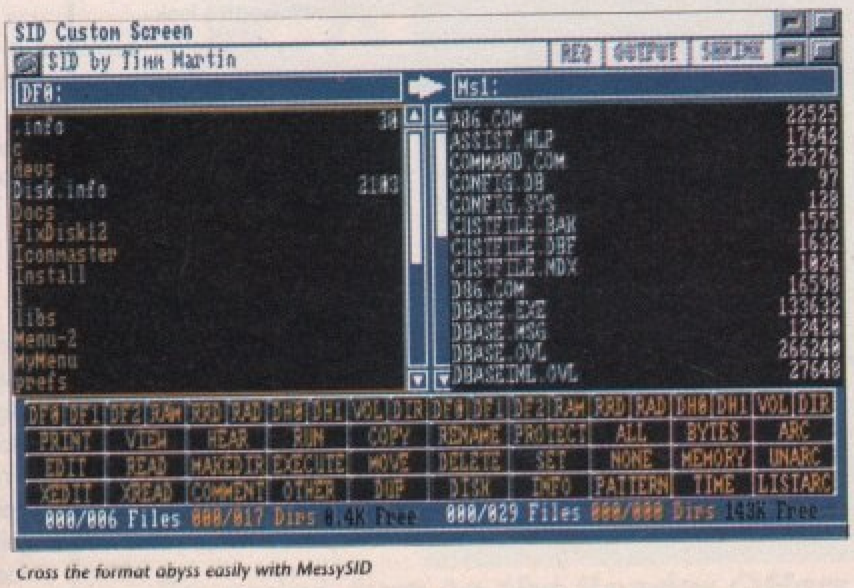
Super SID

SID has been around a while now and is probably one of the most useful utilities around. It has taken on a new dimension and comes supplied with MessyDos format so now it allows you to transfer your Amiga format files to MSdos and back.

If you didn't get SID on the coverdisk, why not? It allows you to copy files, set the protection bits, arc files, unarc files, listen to sound samples and gives you complete control over your Amiga's file system.

With MessySid one drive is MSdos format and the other is Amiga format. I don't know whether it's possible to use one drive as both devices but it is possible with MessyDos to use one drive only.

When MessySid is booted it installs an MSdos device on your disk drives automaticaly. If you have two drives, DF1 should become the MSdos device, it's easier that way. Let's say you have an Amiga format disk in drive 0 and an MSdos format disk in drive 1. If you've just spent half an hour on a local PC BBS and you can't be bothered to swap your modem around with your PC, you just download the PC file, run MessySid, pop in an MSdos formatted disk and copy the file over. Simple!



Cross the format abyss easily with MessySID

Take care

My Amiga recently suffered from virus infection and it was lucky I had a virus detector to hand. They are invaluable in detecting and eliminating strains of virus that some people never realise are present.

It's a shame that some people decide to write virus programs. It's an idiotic pastime and I wish there was some legislation introduced to prosecute the authors of such works. Viruses inevitably do more harm than good: some are harmless, others aren't, nevertheless it's better to be without one. The worst types of virus are those that corrupt your software or data files.

I feel vulnerable now that my system has been infiltrated by a virus and I have learned the lesson that no disk is safe from such a menace. I shall endeavour to keep my software virus free and intend to scrutinise all the software that passes through my hands.

I would suggest that any software you come across in future is vetted with the same caution I shall adopt from now on.

> *The good thing about MessyDos is that you can use MSdos diskettes in the same drive you use for your Amiga Diskettes*

Utilities

Orbital PD have a collection of disks with some great utilities you should not be without. At the moment I believe they have four utility disks crammed with stuff ranging from virus checkers to bootblock writers. And even better, they are executed from a menu selection program so there's no need to mess about with the CLI, which can be a very daunting and horrific experience for the novice. Orbital PD are at 5, Green Lane, South Chailey, East Sussex. You can phone them on 0273 401286.

Do you have a modem? If you do, or are thinking of venturing into the world of comms, you're going to need some utilities. Most bulletin boards have public domain software on them but you may find that the files are archived or warped.

New Wave Software have compiled a disk of modem utilities and it contains probably most, if not all, of what you're going to need to make the most out of your communications.

Files included are terminal emulators, archivers, unarchivers, and virtually everything you need. New Wave are on 061 839 5378 and the disk is called Util 3.

And finally

You may find if you make enquiries that some of the software mentioned in this column can be rather expensive. There are numerous titles for PD software, like shareware, diskware and licenseware.

If you read the article a couple of months back on the PD scene you'll understand. Not every PD release is cheap and you should bear this in mind when you intend purchasing any software that is mentioned. Prices can range from as low as 40 pence to as much as £10 in some cases, so be prepared.

Well, that wraps it up for this month. Join me next month for another look at the world of PD.

Adios ...

Famous last words

Should you purchase any of the above programs or indeed any public domain software, spare a thought for the author who has spent time and effort to make your computing experience an enjoyable one.

Listen to your conscience and send in the cash – after all it's a small price to pay to keep PD alive...



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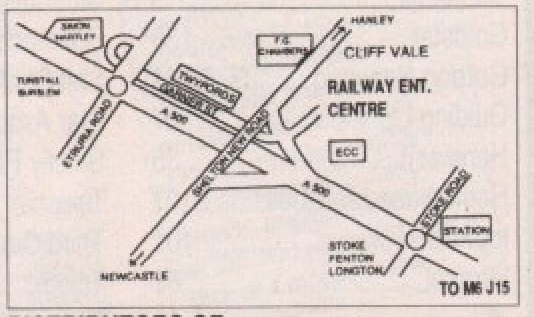
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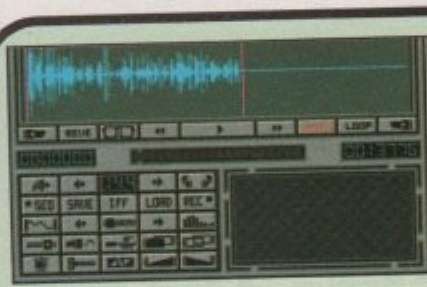
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It's the perfect sound sampling package for beginners and experts alike.

Master Sound is a complete hardware and software sampling system for only **£34.95**

"Is it real or is it Master Sound?"
– Amiga Computing, May 1990


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Rocket: *Hidden words have to be discovered in this hi-tech version of the old favourite Hangman. If they are guessed correctly the rocket will blast-off. Fail and all that's left is a load of scrap.*

Lunar Buggy: *Type fast for fun. The aim is to key in the word as it's pulled across the screen by the buggy. It has to be completed before the letters drop down a crater.*

All Mixed Up: *Jumbled letters have to be sorted out to find the scrambled word. To help beginners – and anyone else who is stuck – clues can be obtained at the press of a key.*

Conveyor Belt: *Words pass by on the screen and have to be remembered. Then they must be typed in – spelt correctly. This is a challenging test of both spelling and memory.*

All the programs have several options for extra flexibility – like a timer with on/off option to

In addition to using the 5,000 words provided, parents – or children – can create their own word lists for using with SPELL! This makes the package ideal for practising those hard-to-learn words, or for "Learn these spellings" homework.

CDTV blues

PRIZE LETTER

I have been the proud owner of a CDTV for a few weeks now and I wish to express my feelings on what I found when I took it home from the shop.

I hurriedly opened the packaging thinking that I could impress my friends with Lemmings and my parents with the Hutchingsons Encyclopedia. Instead, what did I find? A blue piece of paper. Wow, is this the new Interactive medium?

No! What it is is a voucher to send away for Lemmings and the Encyclopedia. "Please allow 28 days for delivery". Great!

So what do you get with this new all-singing and dancing machine? Well you get a CDTV machine (at least you didn't have to send away for this with a voucher!) an RF cable, a pair of phono leads, a "Caddy" (nothing to do with golf) and a welcome disk.

So what do you do with your brand new £600 machine? Well, you can either play the welcome disk until you want to destroy it or you can play audio CDs. What it doesn't mention anywhere is that you can connect an external Amiga disk drive and run normal Amiga software – as long as the game you play doesn't use the keyboard.

Eventually I went down to my local computer store and ordered Sim City. It's great! Far better than the Amiga version.

Don't get me wrong, the CDTV is a brilliant machine but the way in which Commodore dispatch it is very poorly thought out indeed.

I still have a few questions to ask though:

- Is there any way at all that you can connect your Amiga up to the CDTV so that you can use the Amiga keyboard, maybe through the use of a null modem link up ?
- Will you be covering the CDTV? Reviewing software that comes out for it, etc?
- When will the CDTV RAM cards and the CDTV keyboard be available?
- Where can I get hold of CD+G CDs?

Finally, on a happier note I would like to thank Richard Grantham at Commodore and Dixons Perth for all the trouble that they went through for me to get my CDTV as I wasn't due to get it for another five weeks yet.

Colin Brown, Perth

Firstly, You can't use a standard Amiga keyboard with the CDTV via any conventional means.

We certainly will be giving CDTV the coverage it deserves. How much that amounts to will depend on how well the machine does. I suspect that the advent of the A690 CDTV external drive for the Amiga family will promote a rapid growth in CDTV Software.

As for when the keyboard and ram packs will be ready, I'm afraid CDTV peripherals are always "in the pipeline" when I speak to Commodore. When they will actually surface is anyone's guess.

Finally, CD+G CDs can be obtained from your local record store. They won't have a separate section for them, instead some "normal" music CDs are actually in the CD+G format (Fleetwood Mac springs to mind).



Ezra online

Ezra Surf can be contacted on a whole host of bulletin boards and conferencing systems. If you have anything to say, get it off your chest online!

Amiga Computing now also has its own Fidonet echo which is being carried by BBS systems up and down the country. Any Fido sysops interested in hooking up should contact 01 for Amiga to receive this echo.

Additionally our mail man with the most, Ezra Surf, hangs out on the following services:

Service	Account number
Micronet	999900263
Telecom Gold	74:MIK911
CiX	amigacomputing
CompuServe	70007,4734
The Direct Connection	uad1132
01 For Amiga	Amiga Computing

Joystick joker

On reading the July 1991 edition of your magazine I noticed a "joystick review" this so-called review is a pile of s**t to say the least. It had numerable errors and was totally inaccurate, for example you rate the cruiser at 75 "Pardon" 75, that's right!

Furthermore you rate the Cheetah 125+ at 70. My God, it is not even microswitched and the handle tends to snap. Sure, I hear you say, but what about ergonomics? Fine, I feel completely easier using the cruiser or any other joystick come to that.

The Competition Pro. got an incredible 100, 'cos of the extra rapid and slow motion buttons, but can you tell me how the reviewers play games, because all the people I know, including myself say that those aforementioned buttons get in the way?

And did you tell anyone that the shaft is like trying to shift a 5 tonne boulder for the first three years? NO! Forgot that bit didn't you!

Get the ratings right in future. As far as the best joystick goes I would rate the number one stick as the Zipstick. Second would be the Competition Pro followed by the Cruiser.

Julian Foster, Newport

Dear oh dear. You really didn't like our joysticks buyer's guide did you? All I can say is that Steve, Jason and Doug know a good stick when they waggle it.

You obviously have your own very strong opinions on joysticks, so I can't understand why you bothered to seek our advice in the first place.

Write away!

Got something to say through the pages of *Amiga Computing ?*

Ezra Surf is our mailman, dedicated to sitting in a corner reading your letters and selecting the most interesting for publication.

Ezra's favourite letters now get rewarded with exclusive *Amiga Computing* designer T shirts.

Drop him a line at: **Ezra Surf's Postbag,** *Amiga Computing, Europa House, Adlington Park, Macclesfield, SK10 4NP*

PD predators?

Having recently discovered the delights of PD software I am curious to know whether sales in the commercial software world have been affected. With the quality and quantity of PD ever increasing I would think that commercial houses would and should feel threatened by the onset of high quality software.

Commercial houses are, of course, using the PD scene to publish demos of future releases, a move which has to be commended. Perhaps if all commercial software was available to be sampled like this, fewer people would experience that ripped-off feeling after paying £25 for a game/utility that falls below expectations.

I certainly hope that commercial houses take a long look at the effect PD is having. Not only does it play a part in combating piracy but also in my view it could lead to the demise of some software companies.

On a lighter note I would just like to agree with the comments of Chris Cannon (ESP Issue 38 July 91) regarding mail order. I have just returned from living

No more abuse

First I'll not bore you with the niceties of the standard creep letter format. But I will say, as everyone does, that *Amiga Computing* is undoubtedly the best magazine for the Amiga around. Keep up the good work lads, oh and lasses.

Right, now the mindless drivel has been disposed of, I can get down to the nitty-gritty. It all started one day when I was using my Amiga and contemplating the universe. I then asked myself the mindboggling questions like; is Ezra your real name? Why are trains always late? And what the heck is "Guru Meditation"?

Please, please, please (and one for good luck, PLEASE) could you delve into the depths of your brain and tell us simpletons, who are only mere beginners to the Amiga, what it is? I know it is something to do with software crashing. And how, if possible can I reduce, or even stop, its numerous and unwelcome appearances?

Neal Allen-Burt, Cheshire

A Guru Meditation is the Amiga's way of telling you, the only way it knows how, that it just can't take any more abuse!

The huge number displayed within the Guru's red box is a debug diagnostic, allowing programmers to work out where things are going wrong, and sometimes even why!

The Guru usually comes to visit when you are running public domain demos – which aren't renowned for being O/S legal. Alternatively, pushing the Amiga's multitasking powers a bit too far can lead to a nervous breakdown under the vanilla bonnet.

If I knew how to stop Guru's happening on the Amiga I would be the richest person I know.

in Germany for two years and the three companies that I dealt with during that time gave me the very best service I could have asked for. They were Evesham Micros, Gordon Harwood Computers and Crazy Joe's PD library. Thanks for a really informative magazine.

Steve Marshall, Wallingford, Oxon

I have to agree that the quality of some public domain software is very high, as a look at this month's PD column will prove. I don't think that commercial houses feel too threatened to be honest. After all, there is a lot of programming talent out there and the public domain is an excellent way for programmers to develop their skills before being snapped up for commercial projects.

Catalogue con

I am a regular reader of *Amiga Computing* (Honest) and I think it is the best of the bunch when reviewing software and hardware (that bit is honest too). I have had my Amiga A500 for over two and a half years and use it for everything, from desktop publishing (Pagesetter II - it's basic but Protext is well out of my price range) to entertainment (Lemmings still wastes hours and hours).

But I am not writing to tell you about me. A mail order firm is selling an MSdos computer which does more that it's meant to. A photograph in a catalogue selling a Commodore PC, shows a PC20HD running the Preferences program from Workbench via Kickstart. Now, correct me if I'm wrong, but the PC20HD never had (and I don't think ever will have) the ability to emulate the set of Amiga computers, which are the only ones to run Kickstart as an operating system.

That is not all either, most of the home shopping adverts for computers that I have looked at seem to have something wrong with the description or the photograph that they are selling the computer on. Are these types of companies being slapdash on purpose or are the people that produce these catalogues ignorant to facts? I personally, go for the latter and it makes me very mad indeed, as facts conveyed in an inaccurate manner always do.

While we are on the subject of inaccuracies, I hope you lot are going to apologise to Empire Software for telling readers that Megatraveller I costs £00.00, when in fact it costs £29.99 (oh dear, what a silly mistake).

Andrew Finlayson, Blackpool

The only thing that the PC20HD and the Amiga have in common is the manufacturer, Commodore. My guess is that after getting the setup perfect for a photograph of an Amiga 500, your catalogue company decided to simply switch the machines over and leave an Amiga display running for the duration of their photo shoot.

Mail order catalogues are often inaccurate with their specifications. It is more critical, and noticeable with computer hardware though. I remember one firm was promising an A500 with 512 meg of memory!

As for our Megatraveller gaffe, the silly mistakes are always the ones that get through!

Hardy annual

While visiting my local software shops the other day, I noticed that they were all selling many of the newest games at knock down process!

While a single Sheffield shop normally may be found having a sale of some kind, it's extremely unusual indeed to see them all in this state at the same time. I enquired at the counter. The shop assistant claimed that these cheap prices were due to the current recession, a sales slump and the fact that the majority of big releases are rushed out at Christmas.

Is Sheffield merely an isolated case or is it the same nationwide? These stores must be feeling the unemployment sting very badly – already, one local store has had to start filling its shelves with various paints, board-games and metal miniatures just to draw in more customers!

Even worse, the software companies themselves must be in a bad way at the moment. If the shops, in desperation, are reducing their prices, in turn the companies will sell more games but at the same time making very little profit. Already, Hewson is one casualty that has gone under and I wonder who will be next.

Add to this the continual threat of piracy and we have problems, although this may be taking the issue just a little too far...

Any suggestions you may have on this matter will be gratefully accepted. Do you think I am blowing it out of all proportion or just being realistic?

Stuart N Hardy, Sheffield

We really must meet sometime Stuart. After all, I spend most of my day replying to your multi-coloured letters.

You don't have to be too perceptive to see that things are getting a bit competitive in the software business. The recession is certainly a major factor, but there are others. Take, for example, the sudden rush of budget software releases. These are all games, around a year or less old, being marketed at price points well below a tenner.

It's not really a panic measure by software houses, more of a natural evolution. Take the current state of the 8-bit market as an indicator. These formats are totally flooded with very cheap software, but it is still a thriving business.

16-bit machines are now established enough to support mass market budget titles, as Kixx, The Hit Squad and the like are only too happy to prove.

Lost for words

I have an A500 with a 512K ram extension and an external floppy drive. I do a fair amount of wordprocessing and also keep simple accounts. I'm beginning to feel that my requirements are outstripping the current setup.

Specifically, I use ICT's Textcraft Plus for wordprocessing. It does pretty much everything I could want, but I wonder why it is so seldom mentioned in your magazine. You can't buy it anywhere. What am I missing in a wordprocessor?

If I decided to upgrade to another wordprocessor, would I need to type in all my files again?

Loading and saving files is very slow. Is a hard disk the answer and what's involved in installing one?

Peter Downe, France

You have answered your own question Peter. We don't mention Texcraft because it isn't widely available. A copy hasn't darkened *Amiga Computing's* door in my living memory.

If you are quite happy, I see no real need for you to change to any other software. Should the urge overtake you, there will be no problem sucking all your Textcraft documents into whichever new package you plump for, providing Textcraft has a generic Ascii save option.

A hard disk will speed up your file operations beyond recognition. They are easy to install, just a simple matter of removing the expansion slot cover on the left-hand side of your A500 and pushing the hard disk in.

Animated antics

My daughter and I have happily been using Andrew's Animation Studio, included on the coverdisk in the July issue of *Amiga Computing*. All goes well until we try to save our masterpieces! However, we try and we get a disk error.

I do find your magazine one of the best on the market for our needs. We are using the Amiga very much as an educational aid rather than a games machine. Please could you tell me what has been included on the coverdisks for the last few months so I can order some, if suitable?

Graham Carter, Warks

Hmmm... I'm not entirely sure why you are having problems with the animation studio. By the time you read this, tech wiz and disk editor supreme, Stevie Kennedy, should have been in touch to help iron the problem out.

As for back issue coverdisks, the best thing to do is contact Europress Direct. Take a look at the Reader Offers form near the back of this issue.



Offers subject to availability

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All these back issues include cover disk.

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AMC9

ROCK LOBSTER

Amiga Computing out in force at the Fourth 16 Bit Computer Fair

Caught in the act!

It's caught in the act time again. For *CITA 40* we have gone back to using random members of Europress staff who happen to wander into the *Amiga Computing* enclosure.

The usual spectacular prize is waiting for anyone who can come up with a caption for this utterly silly photo.

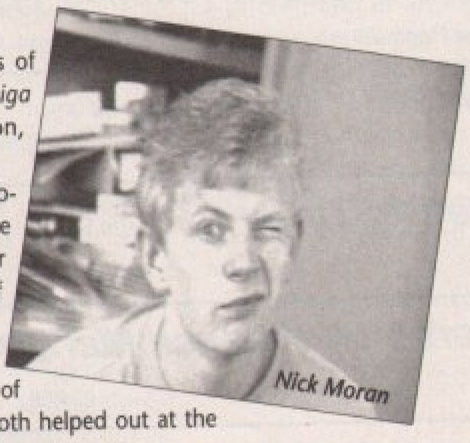


The silly photo is of a pretty silly person. Jonathan "Biffa" Maddock is one of the tribe of Europress gofers. Serving the top floor of Europa House, these dedicated people have made an art form out of never being in the right place at any time.

The right place for Biffa can't really be printed here, but he does tend to spend a fair amount of time avoiding the coffee machine.

Send your entries to: Biffa, Rock Lobster, *Amiga Computing*, Europa House, Adlington Park, Macclesfield, SK10 4NP.

Nick and Simon's excellent adventure



Nick Moran

As you can imagine, there are lots of "behind the scenes" people at *Amiga Computing*. Accounts, administration, advertising and all that sort of stuff.

Even the "behind the scenes" people have their own set of "behind the scenes" staff to rely on. Take, for example, the shy retiring personas of Nick Moran and Simon Williams.

Hard working, committed and dedicated, Nick and Simon are two of the key players at Europress. They both helped out at the 16 Bit Fair like the rest of the *Amiga Computing* team.

It was an eventful weekend for Nick. Within five minutes of arriving in London he had succeeded in getting the *Amiga Computing* batmobile impounded.

As you can imagine, a three day show isn't all work and no play. Armed with nothing more than a pair of McDonalds shades, Nick and Simes set out to paint the town red, or at least a subtle shade of pink.

In 48 short hours, *Amiga Computing's* answer to Hale and Pace had made lots of "new and interesting" friends. These included a bag lady and some gents who would like to have got to know Nick better than time permitted.

The highlight of the weekend for Nick and Simon wasn't the numerous trips out, the bright lights of London, the fine food and drink. It was, apparently, a screening of the movie *Bill and Ted's Excellent Adventure* on Sky.

Amiga (Computing) people

Here it is, the picture that had *Amiga Computing* **"almost pulled off the shelves"**.

In this slice of digitiser history you see Paul Austin, Stevie Kennedy and Eddie McKendrick. This limited edition print – only 109,000 printed – will grace any bedroom floor beautifully.

We just can't empty our cupboards fast enough here at *AC* so it's time for another Rock Lobster mini competition. What we want you to do is guess the age of each member of the team, then add the whole lot up and arrive at a total age. The nearest will be very smug indeed and will probably receive a breathtaking prize.

Send your entries to Mid Life Crisis, Rock Lobster, *Amiga Computing*, Europa House, Adlington, Macclesfield, SK10 4NP.



The AC stand in full effect

PD winners – almost

Many thanks to everyone who entered our massive PD competition a month or two ago. The entire 17-Bit disk library will be winging its way to a lucky winner very soon.

Watch next month's Rock Lobster for the final result. Our decision has been delayed because of the sheer number of entries our elves are having to sift through.

Fast format

We hope you enjoyed our exclusive preview of Deluxe Paint IV last month. We were the first UK magazine to get a review from someone who had used the product "hands-on" for more than half a day.

Another Amiga magazine is running its Deluxe Paint exclusive this month. It just goes to show that some exclusives are more exclusive than others.

16 Bit Computer Fair – the awards

It is with great pleasure that *Amiga Computing* announce the winners in their first annual 16-Bit show awards.

Our panel of judges carefully selected the winners during the three day event at the Novotel, Hammersmith. These aren't real awards, so don't take them too seriously...

Happiest stand personnel:
Arnor Ltd
Best dressed exhibitor:
Jeff Minter, Llamasoft
Most popular exhibitor:
Nick Moran, Europress
Most irritating exhibit:
Monster Sound Cartridge
Most interesting exhibit:
Female staff, Soft Stuff
Most popular bar:
Le Pub, Novotel Hammersmith
Most popular stand:
Le Pub, Novotel Hammersmith
Best hiding place:
Le Pub, Novotel Hammersmith
Most expensive bar:
Le Pub, Novotel Hammersmith
Most innovative new product:
Talking cigarette machine, Novotel Hammersmith
Most tacky accessory:
McDonalds shades, McDonalds, Hammersmith

Next month's Amiga Computing

Well that wraps up another issue of Britain's fastest growing Amiga magazine.

Next month's *AC* hits the streets on Thursday, 5th September 1991. Catch it while you can.

NEW

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Amiga Computing: The best Amiga digitiser has had the technicolour treatment. Vidi must be one of the most exciting peripherals you can buy for your Amiga.

Micro Mart: When I first saw Vidi ''in the flesh'' as it were, at the CES show last September it looked to be the answer to a frustrated Digi View owner's dreams – in fact to see pictures appearing on screen without the customary two minues wait seemed almost too good to be true. I have consistently produced more good quality pictures in the short time I have had Vidi than I ever did with Digiview.

Zero: Now under normal circumstances cheap usually means poor quality but this is not the case with Rombo. Why? cos Vidi-Amiga is the best digitiser for under £500 and I've tried them all.

Amiga Format: Where quality is concerned, Vidi produces some of the best results I've seen on any digitiser at any price.

Amiga User International: The latest addition to the Rombokit is called Vidi-RGB and brings this already impressive package to the realms of totally amazing. CONCLUSION: Who will find Vidi-Amiga useful? The answer to this is almost anyone with a video recorder or camera and a passing interest in graphics.

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You will see from independant review comments that we are undoubtedly their first choice and that was before the complete solution was launched. If you have just purchased your Amiga and are not sure what to buy next, then just read the comments or send for full review and demo disk.



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